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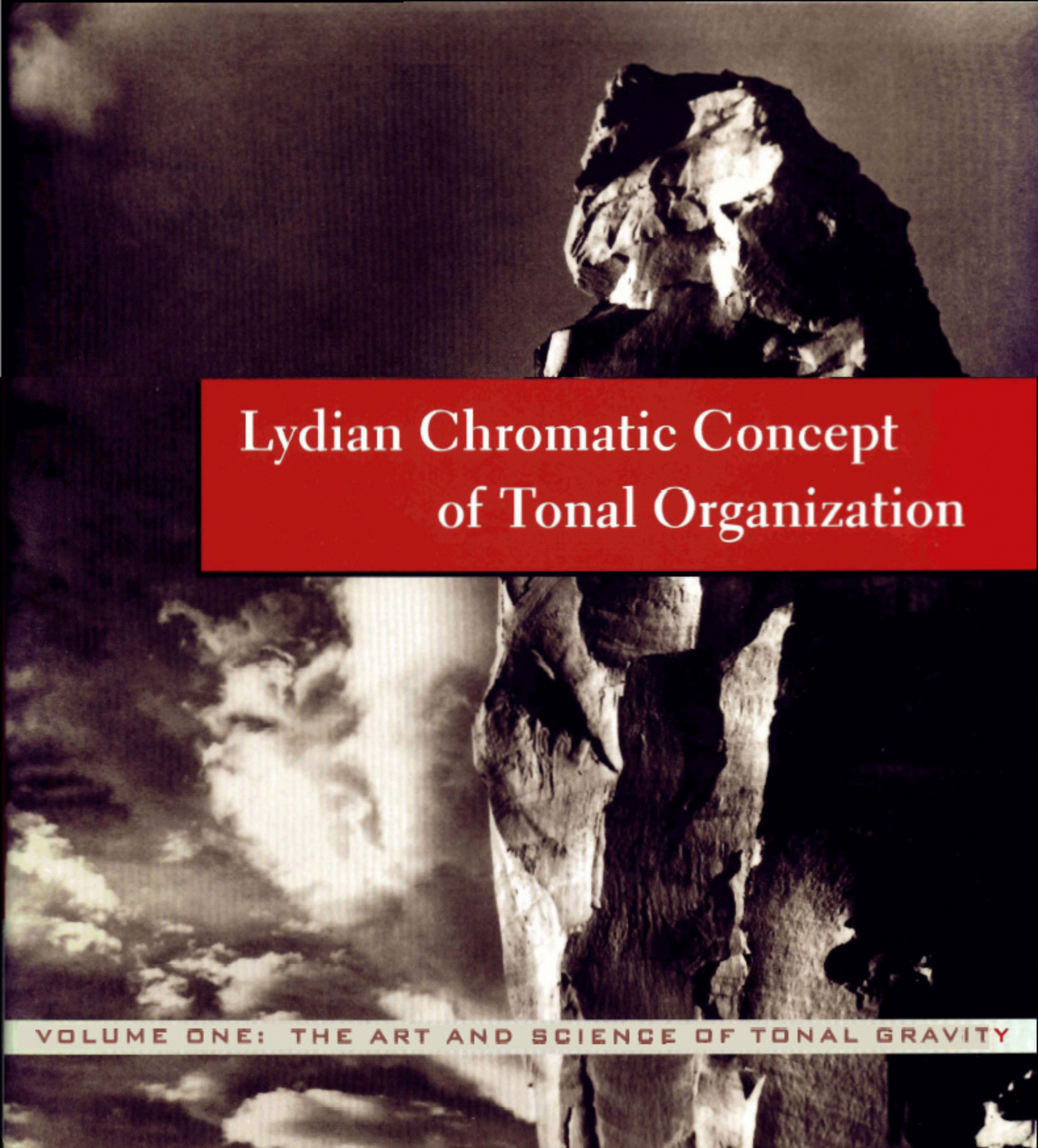


Lydian Chromatic Concept of Tonal Organization

VOLUME ONE: THE ART AND SCIENCE OF TONAL GRAVITY

CHART A

Primary Modal Tonic Degrees	PRIMARY MODAL GENRE OF A LYDIAN CHROMATIC SCALE	Alternate and Conceptual Modal Tonic Degrees

I Major / Altered Major — (Vh) (IIh) (Ih)

PARENT SCALE is the first in Chart A's descending order of Principal Scales to list the Prevailing Major/Altered Major chordmode over Primary Modal Tonic I.

PARENT LYDIAN TONIC is the tonic degree of the chordmode

II Seventh / Altered Seventh — (+V) (VII) (III) (+IV) (IIh) (I)

PARENT SCALE is the first in Chart A's descending order of Principal Scales to list the Prevailing Seventh/Altered Seventh chordmode over Primary Modal Tonic II.

PARENT LYDIAN TONIC is the flat seventh degree of the chordmode

III Major IIIB / Minor +5 — (Vh Maj 3B) (IIh Maj ♭7 3B)

PARENT SCALE is the first in Chart A's descending order of Principal Scales to list the Prevailing Major IIIB/Minor +5 chordmode over Primary Modal Tonic III.

PARENT LYDIAN TONIC is the augmented fifth degree of the chordmode

+IV Minor Seventh ♭5/ Major +IVB — (VI)

PARENT SCALE is the first in Chart A's descending order of Principal Scales to list the Prevailing Minor Seventh ♭5/major +IVB chordmode over Primary Modal Tonic +IV.

PARENT LYDIAN TONIC is the augmented fourth degree of the chordmode

V Major VB — (Vh Maj 5B) (IIh Maj 5B)

PARENT SCALE is the first in Chart A's descending order of Principal Scales to list the Prevailing Major VB chordmode over Primary Modal Tonic V.

PARENT LYDIAN TONIC is the fifth degree of the chordmode

VI Minor / Altered Minor — (VIh) (+IV) (IIIh) (VIIh)

PARENT SCALE is the first in Chart A's descending order of Principal Scales to list the Prevailing Minor/Altered Minor chordmode over Primary Modal Tonic VI.

PARENT LYDIAN TONIC is the minor third degree of the chordmode

VII Major VIIB / Eleventh ♭9 — (+V) (+IV) (II)

PARENT SCALE is the first in Chart A's descending order of principal scales to list the Prevailing Major VIIB/ Eleventh ♭9 chordmode over Primary Modal Tonic VII.

PARENT LYDIAN TONIC is the flat second degree of the chordmode

+V Seventh +5 — (II) (VII) (+IV) (III)

PARENT SCALE is the first in Chart A's descending order of Principal Scales to list the Prevailing Seventh +5 chordmode over Primary Modal Tonic +V.

PARENT LYDIAN TONIC is the major third degree of the chordmode

NOTE TO CHART A: Roman numerals represent degrees of the scale; Arabic numerals represent degrees of the chord. Roman numerals Ih and VIh, listed to the right of their respective PMG on Chart A (with the group of smaller roman numerals), must be regarded as simply *courtesy Modal Tonic Degrees*, since they manifest totally within the Prevailing LC Scale, unlike their neighboring Alternate and Conceptual Modal Genres, which cause a change of Prevailing LC Scale.

THE SEVEN PRINCIPAL SCALES

OF A LYDIAN CHROMATIC SCALE AND ITS PRINCIPAL AND SUB-PRINCIPAL CHORDMODES

Lydian Scale Chordmodes

Lyd Maj 13th	13th	I Lyd Maj 13th/IIIB	I Lyd Maj 13th/+IVB	I Lyd Maj 13th/VB	min 13th	I Lyd Maj 13th/VIIB
Maj triad	7th	Maj triad/IIIB	min 7th ♭5	Maj triad/VB	min triad	7th ♭9
Maj 6th	9th	Maj 6th/IIIB	min 7th ♭5 ♭9	Maj 6th/VB	min 6th	11th ♭9
Maj 7th	11th	Maj 7th/IIIB	min 11th ♭5 ♭9	Maj 7th/VB	min 7th	11th ♭9 +5
Maj 9th		Maj 9th/IIIB	min 11th ♭5 +5 ♭9	Maj 9th/VB	min 9th	
Maj 7th ♭5		Maj 7th ♭5/IIIB (min +5)		Maj 7th ♭5/VB	min 11th	
I	II	III	+IV	V	VI	VII

Lydian Augmented Scale Chordmodes

Lyd Aug Maj 13th	13th +11	I LA* Maj 13th/IIIB	I LA Maj 13th/+IVB	7th +5 ♭9	min 13th +7	I LA Maj 13th/VIIB
Aug Maj triad	7th ♭5	Aug Maj triad/IIIB	min 7th ♭5	+9 +11	min +7	7th ♭9
Aug Maj 7th	9th +11	Aug Maj 7th/IIIB	min 9th ♭5	7th +5	min 9th +7	7th ♭9 +9
Aug Maj 9th		Aug Maj 9th/IIIB	min 11th ♭5	7th +5 ♭9	min 11th +7	11th ♭9
Aug Maj 7th ♭5		Aug Maj 7th ♭5/IIIB	min 11th +5 +11	7th +5 +9		
Aug Maj 9th +11		Aug Maj 9th +11/IIIB		7th +5 +11		
I	II	III	+IV	+V	VI	VII

*LA = Lydian Augmented

Lydian Diminished Scale Chordmodes

LD* Maj 13th	13th ♭9	I LD Maj 13th (♭IIIB)	I LD Maj 13th/+IVB	I LD Maj 13th/VB	min 13th ♭5	I LD Maj 13th/VIIB
Dim Maj triad	7th ♭9		Dim tetrachord	Dim Maj triad/VB	min 7th ♭5	7th ♭9
LD Maj	11th ♭9			Lyd Dim Maj/VB	min 9th ♭5	7th +9
Dim Maj 6th				Dim Maj 6th/VB	min 11th ♭5	7th +5
Dim Maj 7th				Dim Maj 7th/VB		7th ♭9 +5
Dim Maj 9th				Dim Maj 9th/VB		
I	II	♭III	+IV	V	VI	VII

*LD = Lydian Diminished

Lydian Flat Seventh Scale Chordmodes

Lyd ♭7 Maj 13th	11th ♭13th	I Lyd ♭7 Maj 13th/IIIB	I Lyd ♭7 Maj 13th/+IVB	I Lyd ♭7 Maj 13th/VB	min 13th ♭9	I Lyd ♭7 Maj 13th
Maj ♭7	7th +5	Maj ♭7/IIIB	min 7th ♭5	Maj ♭7/VB	min 7th ♭9	(♭VIIB)
Lyd ♭7 Maj	9th +5	Lyd ♭7 Maj/IIIB	min 7th ♭5 ♭9	Lyd ♭7 Maj/VB	min 11th ♭9	
Maj 9th ♭7		Maj 9th ♭7/IIIB	7th +5 ♭9	Maj 9th ♭7/VB		
Maj 9th ♭7 +11		Maj 9th ♭7 +11/IIIB	7th +9 +11	Maj 9th ♭7 +11/VB		
I	II	III	+IV	V	VI	♭VII

Auxiliary Augmented Scale Chordmodes

Aux Aug Maj ♭13th	9th +5 +11	I Aux Aug Maj ♭13th/IIIB	9th +5 +11	9th +5 +11	I Aux Aug Maj ♭13th
Aug Maj triad	7th +5	Aug Maj triad/IIIB	7th ♭5	7th +5	(♭VIIB)
Aug Maj ♭7	7th ♭5	Aug Maj ♭7/IIIB	7th +5	7th ♭5	
Aug Maj 9th ♭7	7th +5 +11	Aug Maj 9th ♭7/IIIB	9th +11	7th +5 +11	
Aug Maj 9th +11		Aug Maj 9th +11/IIIB			
I	II	III	+IV	+V	♭VII

Auxiliary Diminished Scale Chordmodes

AD Maj ♭13th	13th ♭9+9♭5	I AD Maj ♭13th		I AD Maj ♭13th/+IVB	7th+9 ♭9 ♭5	Dim min ♭13th +7	I AD Maj ♭13/VIIB
Dim Maj Triad					7th +9	Dim min +7	7th ♭9
Dim Maj 6	7th ♭5	(♭IIIB)	(IVB)	Dim tetrachord	7th ♭9	Dim min 9th +7	7th +9
Dim Maj 7th	7th ♭9				7th ♭5	Dim min 11th +7	7th ♭5
Dim Maj 9th	7th ♭9 ♭5						7th ♭9 +9 ♭5
Dim Maj 11th	7th +9 +11						
I	II	♭III	IV	+IV	+V	VI	VII

*AD = Auxiliary Diminished

Auxiliary Diminished Blues Scale Chordmodes

Aux Dim Blues Maj 13th	I AD Blues Maj 13th		I Aux Dim Blues Maj 13th/IIIB	I AD Blues Maj 13th/ +IVB	I Aux Dim Blues Maj 13th/VB	min 13th ♭9 ♮3 +11	I Aux Dim Blues Maj 13th (♭VIIB)
Maj triad	(♭IIB)	(♭IIIB)	Maj triad/IIIB		Maj triad/VB	min triad	
Maj 6			Maj 6th/IIIB	min 7th ♭5	Maj 6th/VB	min 6th	
Maj ♭7			Maj ♭7/IIIB	13th ♭9 +11	Maj ♭7/VB	min 7th	
Maj ♭7 ♭9 +11			Maj ♭7 ♭9 +11/IIIB	7th ♭9 +11	Maj ♭7 ♭9 +11/VB	min 7th ♭5	
				7th +9		min 13th ♭5	
I	♭II	♭III	III	+IV	V	VI	♭VII

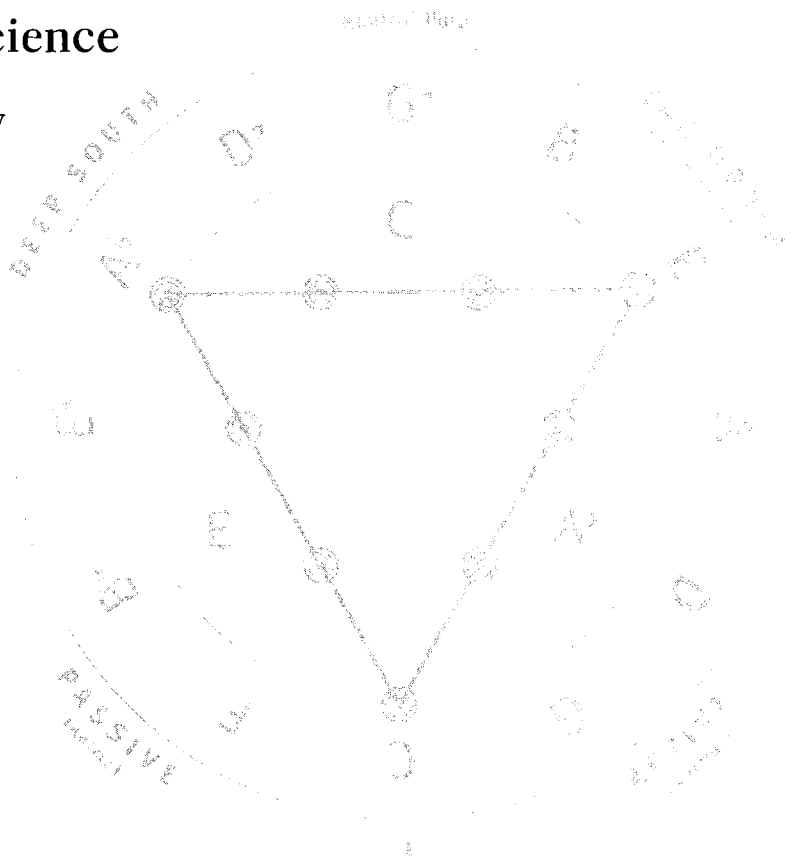
NOTE TO SEVEN PRINCIPAL SCALE COLUMN: Major or altered major chords appearing over modal tonic degrees other than I designate a *Lydian Tonic I Major* or *I Altered Major* chord of the corresponding Principal Scale being sounded with that modal tonic degree in the bass. For example, the chord Aug Maj (IIIB) listed over modal tonic degree (III) of the *Lydian Augmented Scale* designates the *Lydian Aug I Major* chord sounded over its third degree. This free-form, natural voicing is applicable to any Chart A chord family simply by imposing the I Major Principal Chord of that chord family upon its designated modal tonic degree. In this manner the voicings of all chords within that family are acquired. Chapter III, Ex. III:3 to Ex. III:27, provides the fundamental voicing of each of the seven types of Mode I Major Principal Chords of the LC Scale, the eighth principal chord resulting from imposing Lyd Aug Mode I Principal Chord upon PMT degree +V of the Lydian Chromatic Scale.

GEORGE RUSSELL'S

Lydian Chromatic Concept of Tonal Organization

VOLUME ONE:

The Art and Science of Tonal Gravity



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Foreword

As you will soon discover for yourself, the *Lydian Chromatic Concept of Tonal Organization* requires us to think in a new way. While it is inevitable that you will bring what you know to the Concept, you will soon realize the dramatic difference of this musical landscape where tones, scales, chords, and modes resonate within the Principle of Tonal Gravity. In order for this to begin to work within you and within your music, it is strongly suggested that you give these ideas your complete openness and attention and, even for brief moments, let go of your preconceptions of the theoretical foundations of Western music. The knowledge that appears in the two volumes of the *Lydian Chromatic Concept* has been distilled very carefully to allow students of the Concept to adapt their own musical perspectives to this one.

The unified core of ideas at the root of the Concept has the potential to transport music into a realm of deeper meaning. Opening up to these possibilities requires patience, concentrated thought, and dedicated study. Therefore it is important to realize that you cannot assimilate these ideas from too narrow a basis, either intellectually or emotionally. By making the effort to absorb the terminology and structure presented here, your musical foundation can be made stronger and the connections between you and your music more intelligent. Once the unity of the Concept begins to penetrate your practical understanding, everything in it becomes useful. It is then that its message challenges you to inquire musically and psychologically into the things you think and feel. For this reason, it is crucial to embrace the Concept from an emotionally receptive position of seeking something genuine for yourself in a world where most music is far removed from innovation and excellence. To do this requires a willingness to learn that emanates from self-motivation.

The Concept has a unique way of interpreting and translating the things

of great value that music can tell us—something about the meaning of organization and gravity. Its purpose is to generate new pathways toward greater freedom in exercising aesthetic judgment and discernment that invoke a more objective fulfillment of musical statement. The focus, attention, and consciousness you put into the study of the Concept will uncover greater meaning and an expansion of your musical understanding, regardless of the the stylistic genre of music to which you apply it.

* * * * *

Throughout this course of study you will notice that terms like vertical, horizontal, and the relationship to states of tonal gravity signal an eloquent departure from the major-minor consonant-dissonant system that is commonly taught to students. This specific language, when integrated into your thinking, can bring about personal advancement that will convey insight and innovation to your craft. The ideas are interrelated for a unity like that of a mandala, rather than the compartmentalized, noncontiguous elements that form commonly accepted notions of musical behavior. By its very nature, *The Lydian Chromatic Concept of Tonal Organization* will give you a fresh outlook that can aid in bringing life to your musical understanding. This requires you to master a sense of independence and self-awareness. Try to "visualize" the relationships presented in this book by "hearing" its knowledge with an inner ear that is capable of formulating your own singular musical ideas through the experience of an internal focus. This focal point can help you decipher between the superficial, mechanical associations you may be accustomed to making in your compositions or improvisations and the quality of consciousness that allows many levels of subtlety to come into play. Simply to imitate what others have played and composed is not enough. It may be beneficial for you to consider adopting a reciprocal attitude to digesting the Concept whereby the energy you give while implementing its ideas will fuel your passage through unexpected doors of discovery.

Having a specific aim while working with the Concept can be helpful. Whether you are a composer, instrumentalist, improviser, educator, arranger, or theoretician, and even if you come to this book from outside the profession of music, finding an aim as you work will allow you to put this knowledge into action and have it work for you. Use this book as a map to help you aim for that which extends beyond your customary approach. This

will require you to examine some basic questions about the meaning behind the organization of musical tones and why you play or write music.

As you absorb this knowledge and become more intimate with its fundamental principles, such as the actuality of a passive *do* which yields to everything in scale that is higher than itself (Chapter II), you can begin to unearth a vision of your innate "response-abilities" within your musical discipline. At its essence, *The Lydian Chromatic Concept of Tonal Organization* creates a self-organized and infinite range of possibilities for us to master.

—ANDY WASSERMAN

PART ONE

The Theoretical Foundation of the Lydian Chromatic Concept of Tonal Organization

In time all things are seeking completion . . .
In now all things are complete.

—MAURICE NICOLL
Living Time and the Integration of the Life

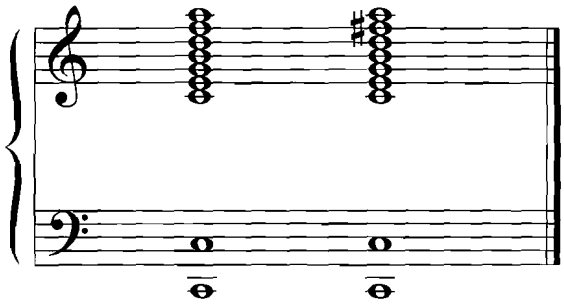
CHAPTER I

The Lydian Scale

The Seminal Source of the Principle of Tonal Gravity

The first publication of the *Lydian Chromatic Concept of Tonal Organization* (1953) demonstrated that there is a scale which sounds in closest UNITY[1] with the harmonic genre of any traditionally definable chord. This scale is termed the PARENT SCALE of a chord.

EXAMPLE I:1. Sound both of the following chords separately. Try to detect the one which sounds a greater degree of unity and finality with its tonical C major triad:



In tests performed over the years in various parts of the world, the majority of people have repeatedly chosen the second chord—the C Lydian Scale in its tertian order. The first chord is the C major scale in its tertian order.

The Lydian Scale represents an ascending order of six intervals of a fifth. The tonic of an interval of a fifth is its lower tone. The tonic of a series of six intervals of a fifth is its lowermost tone. The lowermost tone of a ladder of six consecutive fifths is termed the LYDIAN TONIC.

1. UNITY: Oneness. The quality or state of not being multiple. *Webster's New Collegiate Dictionary.*

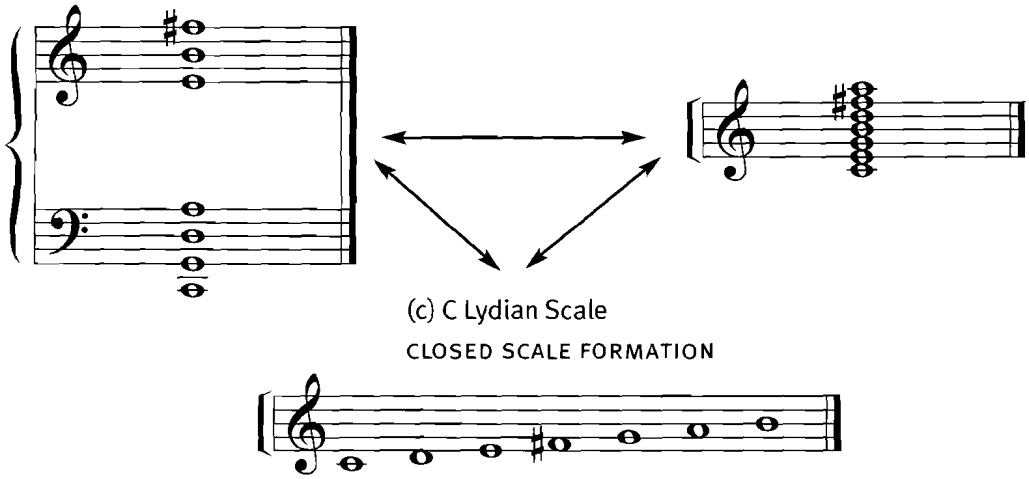
Example 1:2 shows the Primary Order of the Lydian Scale—a ladder of six intervals of a fifth—compacted into tertian and stepwise arrangements.

The C Lydian Scale

EXAMPLE 1:2

(a) ascending ladder of fifths
PRIMARY ORDER

(b) C Lydian (I) major chord
TERTIAN ORDER



(c) C Lydian Scale
CLOSED SCALE FORMATION

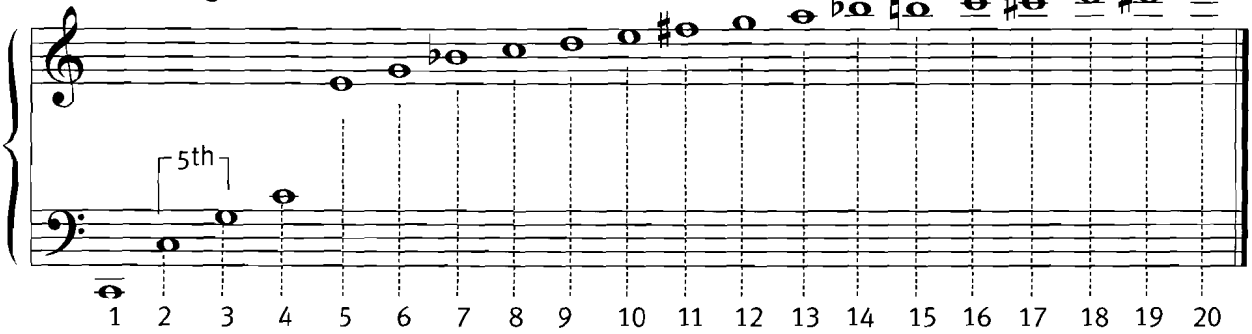
All three arrangements of the C Lydian Scale sound in the state of unity with the C major chord and its C Lydian Tonic.

The Overtone Series

(Equal Temperament Approximation)

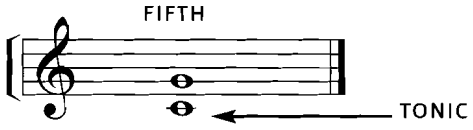
The overtone series in Example 1:3 introduces the interval of a fifth immediately following the initial octave. The fifth is thus established as the strongest harmonic interval. Lying at the base of the overtone series, the fifth is its foundation or cornerstone interval.

EXAMPLE 1:3



By "strongest" it is meant that the fifth, as the first tonically biased interval of the overtone series, establishes itself as the basic unit of TONAL GRAVITY (the tonic of an interval of a fifth is the lower tone). A ladder of fifths proceeding upwards from the tonic C to F♯ (C-G-D-A-E-B-F♯) produces the first seven tones of the Lydian Scale, thereby creating a unified tonal gravity field based on the (C) Lydian Tonic as the center of tonal gravity for the entire scale.

EXAMPLE 1:4



The establishment of the interval of a fifth as the strongest harmonic interval represents the most important contribution of the overtone series to the fundamental principle of the *Lydian Chromatic Concept of Tonal Organization*—the Principle of Tonal Gravity.[1]

An ascending order of six consecutive intervals of a fifth offers, more than any other order of intervals, the most scientifically sound basis upon which to structure an objective theory of music.

Tonal Gravity, or "tonal magnetism," within a stack of intervals of fifths flows in a downward direction (see Example 1:2a); the tone F♯ yields to B as its tonic—F♯ and B surrender "tonical" authority to E, and so on down the ladder of fifths—the entire stack conferring ultimate tonical authority on its lowermost tone, C. In this way, an order of six fifths represents a self-organized TONAL GRAVITY FIELD.

Empowered with ultimate tonical authority, the Lydian Tonic reciprocates by functioning as the center of a self-organized tonal gravity field in which all tonal phenomena are graded on the basis of their close to distant relationship to it. This tonal organization is called a LYDIAN CHROMATIC SCALE. The Lydian Tonic is its "Sun Absolute."

1. Other relationships suggest the Lydian Scale to be the natural child of the overtone series (Example 1:3). For instance, the eleventh overtone as represented by the tone F♯. In relation to the fundamental C, the tone F has a logarithm frequency of 500 cents (a semitone of the equal tempered scale equals 100 cents). The tone F♯ has a frequency of 600 cents. The eleventh overtone, represented as F♯ has a frequency of 551 cents : 1/100th of a semitone closer to F♯ than to F♮. In fact, the overtone series fails to list the F♮ tone even when carried out to twenty harmonics.

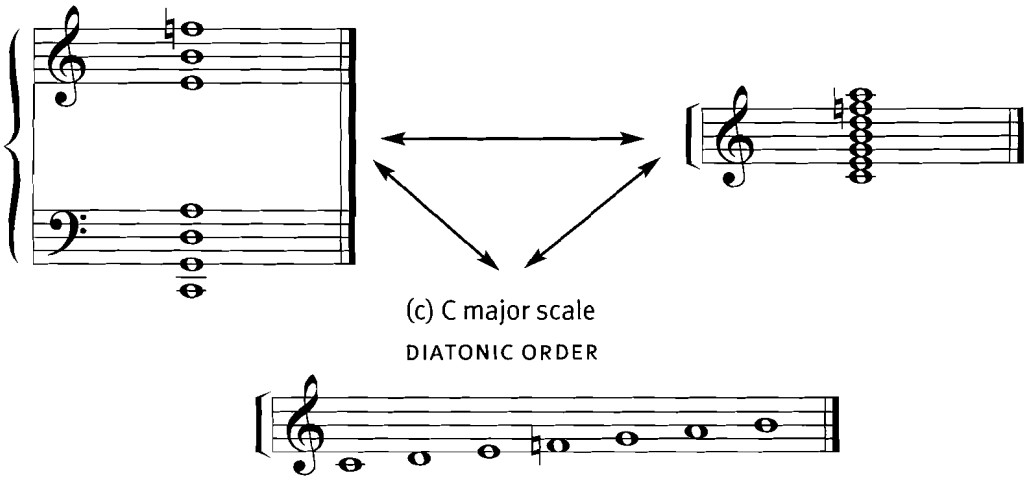
The C Major Scale

A quite different state exists within the traditional major scale. All three of the following arrangements of the C major scale sound in the state of resolving to the C major chord and its tonic (C♮).

EXAMPLE 1:5

(a) order of fifths
LIMITED BY SCALE

(b) C major (**I**) major chord
TERTIAN ORDER



(c) C major scale
DIATONIC ORDER

In using a ladder of intervals of fifths to structure the major scale (see Example 1:5a), the uppermost interval (B to F♯) must be altered a half tone (B to F♮), thus disrupting the perfect symmetry of fifths with its implied logic of chord/scale unity.

Nevertheless, it is still the stack of intervals of fifths predominating in Example 1:5a that causes C♮, the lowermost tone, to be perceived as the tonic of all three C major scale arrangements. However, the Lydian *do* (*fa* of the major scale) accommodates all seven major scale tones[1] in an uninterrupted ascending ladder of fifths, thereby making it the VERTICAL (AUTHENTIC) *DO* of the major scale.

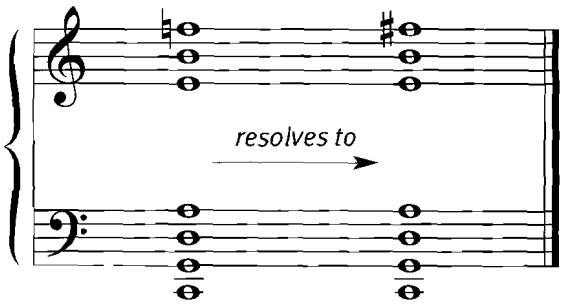
In relation to the tonic tone, C♮, the Ionian (plagal) *do* of the C major scale, none of these three major scale structures sound resolved. The presence of the Lydian *do* on the major scale's fourth degree permanently denies them that possibility.

1. See Reed Gratz Article.

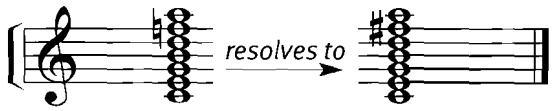
The tension between the Lydian *do* and the Ionian *do* is responsible for the state of duality evidenced by all three major scale structures. They are non-final harmonic structures permanently fixed in a HORIZONTAL LINEAR TIME STATE as non-final chords forever evidencing the tendency to resolve to a final sounding cadence center or goal.

EXAMPLE 1:6

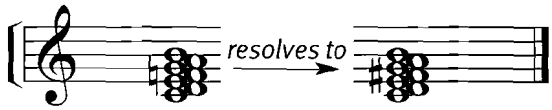
(a) ORDER OF FIFTHS
Resolution of the major scale chord to the Lydian Scale Chord



(b) TERTIAN ORDER
Resolution of the major scale chord to the Lydian Scale Chord



(c) STEPWISE ORDER
Resolution of the major scale chord to the Lydian Scale Chord

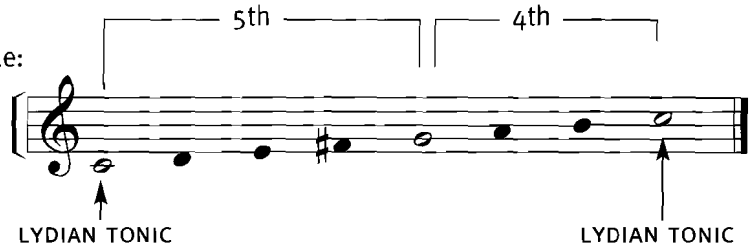


The Fundamental Harmonic Structure of the Lydian Scale

Example 1:7 shows the fundamental harmonic structure of the Lydian Scale to correspond perfectly with the order in which the overtone series introduces intervals. The interval of a fifth occurs first, followed by the interval of a fourth. The tonic of an interval of a fifth is the lower tone; that of a fourth is its upper tone. Both intervals support the Lydian Tonic of the C Lydian Scale, C♮, as their tonic tone.

EXAMPLE 1:7

The C Lydian Scale:

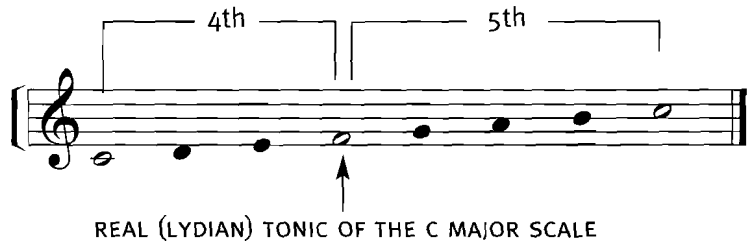


The Fundamental Harmonic Structure of the Major Scale

The basic harmonic structure of the major scale reverses the order in which intervals are found within the overtone series by having the interval of a fourth precede that of a fifth. The real tonic of both intervals is the tone on the fourth degree of the major scale, the Lydian *do* (F♮ in this example).

EXAMPLE 1:8

The C major scale:

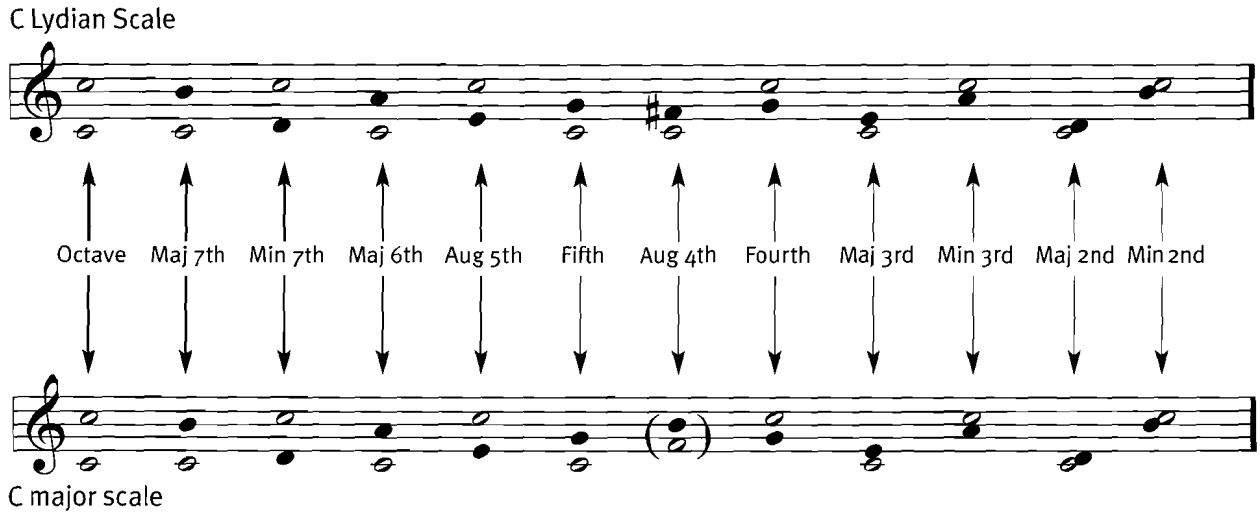


Interval Tonic Justification for the Lydian Scale

(The twelve denominations of intervals are all contained in both the Lydian and major scales)

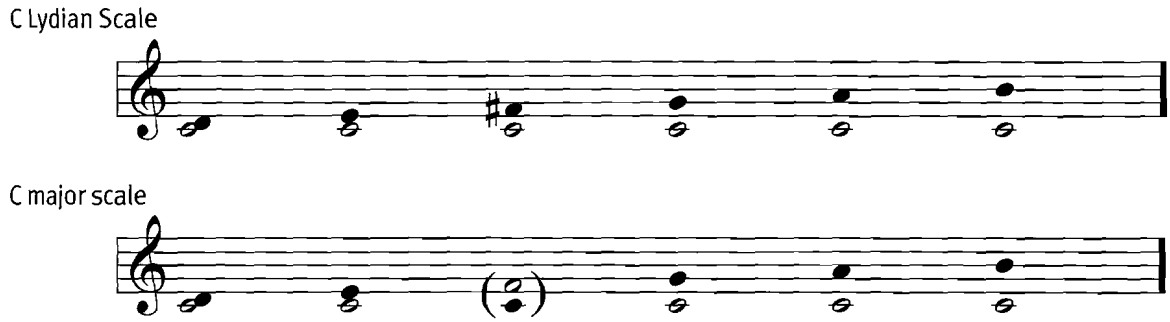
The whole notes represent the tonic of each interval. In the Lydian Scale, it is possible to form all twelve types of intervals with the Lydian Tonic also being the tonic of the interval. However, it is impossible to produce an interval of a tritone (augmented 4th) in the major scale on its tonic (Ionian) *do*.

EXAMPLE 1:9



In Example 1:10, the tonic tones of the intervals formed with the *do* of both the Lydian and major scale are represented by whole notes. The tonic of all intervals created by the Lydian Scale in this process is the Lydian Tonic (C). This is not quite the case with the major scale: all intervals of the major scale take the Ionian *do* (the note C in this example) as their tonic with the exception of the interval of a fourth. As explained previously, the tonic of an interval of a fourth is the upper tone, therefore the tonic of this interval is F.

EXAMPLE 1:10



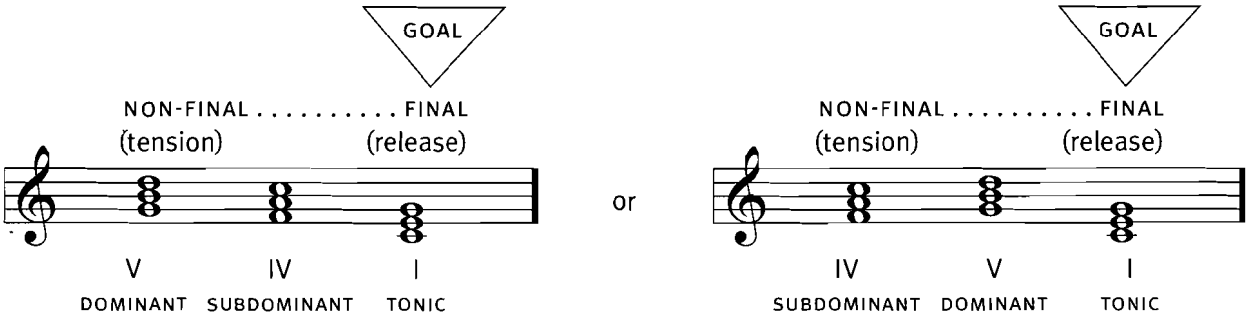
The nature of the Major Scale Octave may be defined as:

THE STATE OF BECOMING A FINALITY— the state of linear, horizontal goal orientation;
the state of permanent tension

Within the major scale octave, it is the Lydian *do*'s secondary position to the Ionian *do* and the perpetual striving of the former to become a unity with the latter that is responsible for the resolving nature of the major scale octave.

The major scale represents the horizontal, musical active force forever in the state of resolving to its I major or VI minor TONIC STATION goal (cadence center) in the context of linear time, forever in the state of striving for unity with such goals. It defines the very nature of resolution as a state of fluctuation between tension and relaxation, non-final and final, occurring necessarily within a linear (horizontal) sequential time continuum. This is confirmed by the major scale's primary harmonic progression:

EXAMPLE I:11



The ascendancy of the major scale to the position of Western music theory's seminal scale may be due, in no small part, to its manifestation of this most fundamental chord progression of the classical era.[1]

The major scale is truly a diatonic scale, as "di" is the Latin prefix meaning two. It contains the Ionian *do* as the primary tonic on degree I, and the Lydian *do* on its IVth degree. The tension between these two tones accounts for the basic qualities of the major scale. These are:

DUALITY — diatonic duality between the non-final Lydian *do* and the final Ionian *do*.

GOAL ORIENTATION — compelling feeling of striving for resolution of the non-final Lydian *do* to the final Ionian *do* within a given linear (horizontal) time span.

The nature of the Lydian Scale Octave may be defined as:

THE STATE OF BEING A UNITY — A unified tonal gravity field in which gravitational energy is passed down a ladder of fifths to its lowermost tone: the Lydian Tonic.

The LYDIAN TONIC, as the musical "Star-Sun," is the seminal source of tonal gravity and organization of a Lydian Chromatic Scale (to be discussed in Chapter II).

UNITY is the state in which the Lydian Scale exists in relation to its I major and VI minor tonic station chords, as well as those on its other scale degrees. Unity *is* . . . instantaneous completeness and oneness in the *Absolute Here and Now* . . . above linear time.

1. Bach to Beethoven

The Lydian Scale is the musical *passive* force. Its unified tonal gravity field, ordained by the ladder of fifths, serves as a theoretical basis for tonal organization within the Lydian Chromatic Scale and, ultimately, for the entire Lydian Chromatic Concept. There is no "goal pressure" within the tonal gravity field of a Lydian Scale. The Lydian Scale exists as a self-organized *Unity* in relation to its tonic tone and tonic major chord. The Lydian Scale implies an evolution to higher levels of tonal organization. The Lydian Scale is the true scale of tonal unity and the scale which clearly represents the phenomenon of tonal gravity itself.

The terms LYDIAN TONIC, TONAL GRAVITY, and VERTICAL TONAL GRAVITY, in particular, refer to the existence of a single preeminent tonic tone, conferred by the ladder of fifths to possess the tonical integrity of an absolute, fundamental tonical *do*.

A Lydian Tonic may be a clearly audible *do*, or its presence may be camouflaged deliberately, as in twelve-tone "serial" music. Nevertheless, there is always a tone which functions in the capacity of a real *do*, or Lydian Tonic, for any segment of music manifesting within the compass of equal temperament. All music conceived within the equal tempered system maintains a closer (more INGOING) relationship to one tone than to all others, regardless of the music's style or genre. This tone is the Lydian Tonic, or real *do* of the music, whose tonical authority may or may not be immediately audible.

As originally stated, the *Lydian Chromatic Concept of Tonal Organization* suggests that there is always a scale which sounds in closest unity with the harmonic genre of any chord. For the C major chord and A minor chord (the Principal Chord produced by the Lydian Scale on its VI degree),[1] that scale (the parent scale) is C Lydian.

1. See Lydian Mode VI Minor—Principal Chord Family, Example III:5, page 25.

CHAPTER II

The Lydian Chromatic Scale

Its Eleven Member Scales and Five Tonal Orders

Introduction

In a conversation I had with Miles Davis in 1945, I asked, "Miles, what's your musical aim?" His answer, "to learn all the changes (chords)," was somewhat puzzling to me since I felt—and I was hardly alone in the feeling—that Miles played like he already knew all the chords. After dwelling on his statement for some months, I became mindful that Miles's answer may have implied the need to relate to chords in a new way. This motivated my quest to expand the tonal environment of the chord beyond the immediate tones of its basic structure, leading to the irrevocable conclusion that every traditionally definable chord of Western music theory has its origin in a PARENT SCALE. In this vertical sense, the term refers to that scale which is ordained—by the nature of tonal gravity—to be a chord's source of arising, and ultimate vertical completeness; the chord and its parent scale existing in a state of complete and indestructible chord/scale unity—a CHORDMODE.[1]

The chief purpose of this chapter is to impress on the reader the strategic significance of the Seven Principal Scales of the Lydian Chromatic Scale as the essential scales involved in "parenting" all the important chord colors of equal temperament.

In revealing the basic tonal organization of the Lydian Chromatic Scale, the fundamental scale on which the *Lydian Chromatic Concept of Tonal Organization* is based, Chapter II proves that Tonal Gravity is the central author, authority, governing force, and foundation of that tonal organization.

The principle of Tonal Gravity produces its fundamental manifestation within a twelve-tone order that spans all of equal temperament (i.e., the eighty-eight notes of the piano keyboard). This tonal order is referred to as a

1. See Chapter III.

Lydian Chromatic Scale, the lowermost tone and center of tonal gravity being its Lydian Tonic.[1] The cornerstone interval on which a Lydian Chromatic Scale rests is that of a fifth, the basic unit of tonal gravity. A ladder of six consecutive intervals of fifths ascending from the Lydian Tonic forms a Lydian Scale, the seminal scale of the Principle of Tonal Gravity and therefore of the Lydian Chromatic Scale.

Augmented and diminished chord colors serve together with ascending intervals of fifths to dictate the position of the remaining five tones of the Lydian Chromatic Scale. This will be discussed later in this chapter.

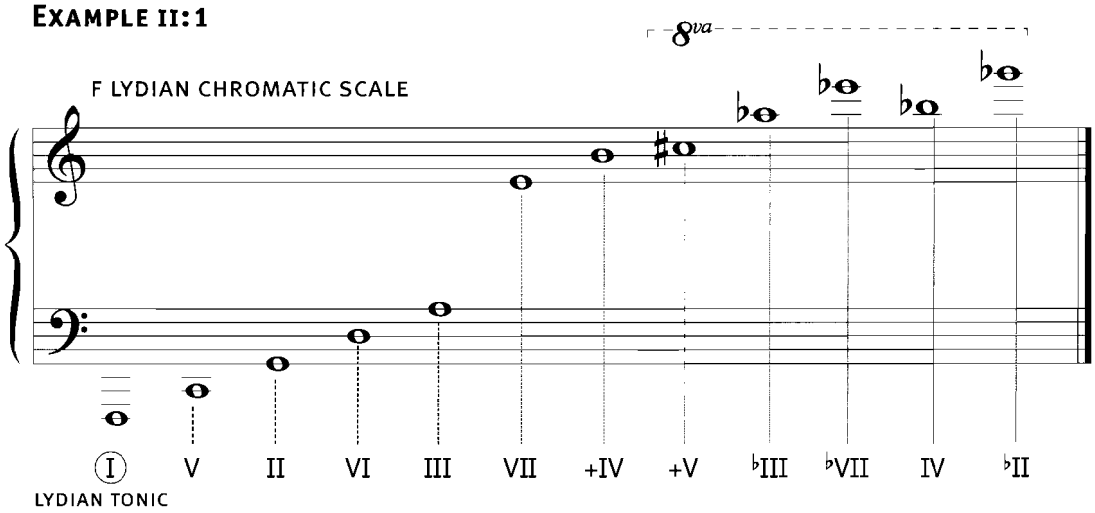
Both Chart A and the chart in Example II:3 show how the Seven Principal Scales of the Lydian Chromatic Scale are derived from a Lydian Chromatic Scale in a manner that is consistent with the latter's close (ingoing) to distant (outgoing) order of tones in relation to a Lydian Tonic. Whether viewed as an assemblage of the twelve individual steps of the Lydian Chromatic Scale or in relation to the Lydian Chromatic Scale's Seven Principal Scales, the creative force of tonal gravity—an all-encompassing framework of magnetically attracted tonal elements connected to a central base tone (Lydian Tonic)—is clearly apparent as the raison d'être.

Chapter II is aimed at familiarizing the musician with the most important chord producing scales of the Western harmonic spectrum. Chapter III shows how chords are created by a harmonic link of unity between chord and scale—a phenomenon that Western music theory has apparently neglected to include as an aspect of its harmonic theory, obviously overlooking or ignoring that the essential nature of harmony is unity; as in the oneness between a chord and its parent scale.

1. See Example II:3.

The F Lydian Chromatic Order of Tonal Gravity

EXAMPLE II:1



The Eleven Member Scales of the Lydian Chromatic Scale

A Lydian Chromatic Scale contains eleven MEMBER SCALES. Member scales are not arbitrarily selected because they "sound good"; their identity is determined by compliance to specific criteria. These criteria, which justify a scale's classification as a member scale, are:

a. a scale's capacity to parent chords considered important in the development of Western harmony
b. a scale as being most representative of a tonal level of the Lydian Chromatic Scale
c. the historical and/or sociological significance of a scale.

The eleven member scales of a Lydian Chromatic Scale are divided into two groups: PRINCIPAL SCALES and HORIZONTAL SCALES.

The Seven Principal Scales of the Lydian Chromatic Scale

There are seven vertical principal scales of the Lydian Chromatic Scale, simply called "Principal Scales." These scales are considered vertical in nature because:

a. they serve as the Principal Chord-parenting scales of the Lydian Chromatic Scale. As such, they exist as the scales of origin and unity, acting as primary parent scales for those

chords considered to be the important definable chords of contemporary and traditional Western harmony

b. their order[1] reflects the sequence of their derivation from the fundamental tonal order of the Lydian Chromatic Scale[2] itself. and

c. they may also correspond to the chronological succession of the chords they parent into use in Western harmony.

Example 11:2 first illustrates the Lydian Chromatic Order of Tonal Gravity based on F♮ as the Lydian Tonic, followed by the Seven Principal Scales listed in descending order of their ingoing-to-outgoing relationship to the F Lydian Tonic.

EXAMPLE 11:2

The F Lydian Chromatic Order of Tonal Gravity

F	C	G	D	A	E	B	C♯	A♭	E♭	B♭	G♭
I	V	II	VI	III	VII	+IV	+V	♭III	♭VII	IV	♭II

The Seven Principal Scales of the F Lydian Chromatic Scale

1. THE LYDIAN SCALE	F LYDIAN
I II III +IV V VI VII	F G A B C D E
2. THE LYDIAN AUGMENTED SCALE	F LYDIAN AUGMENTED
I II III +IV +V VI VII	F G A B C♯ D E
3. THE LYDIAN DIMINISHED SCALE	F LYDIAN DIMINISHED
I II ♭III +IV V VI VII	F G A♭ B C D E
4. THE LYDIAN FLAT SEVENTH SCALE	F LYDIAN FLAT SEVENTH
I II III +IV V VI ♭VII	F G A B C D E♭
5. THE AUXILIARY AUGMENTED SCALE	F AUXILIARY AUGMENTED
I II III +IV +V ♭VII	F G A B C♯ E♭
6. THE AUXILIARY DIMINISHED SCALE	F AUXILIARY DIMINISHED
I II ♭III IV +IV +V VI VII	F G A♭ B♭ B♮ C♯ D E
7. THE AUXILIARY DIMINISHED BLUES SCALE	F AUXILIARY DIMINISHED BLUES
I ♭II ♭III III +IV V VI ♭VII	F G♭ A♭ A♮ B C D E♭

1. Descending order as listed on Chart A.

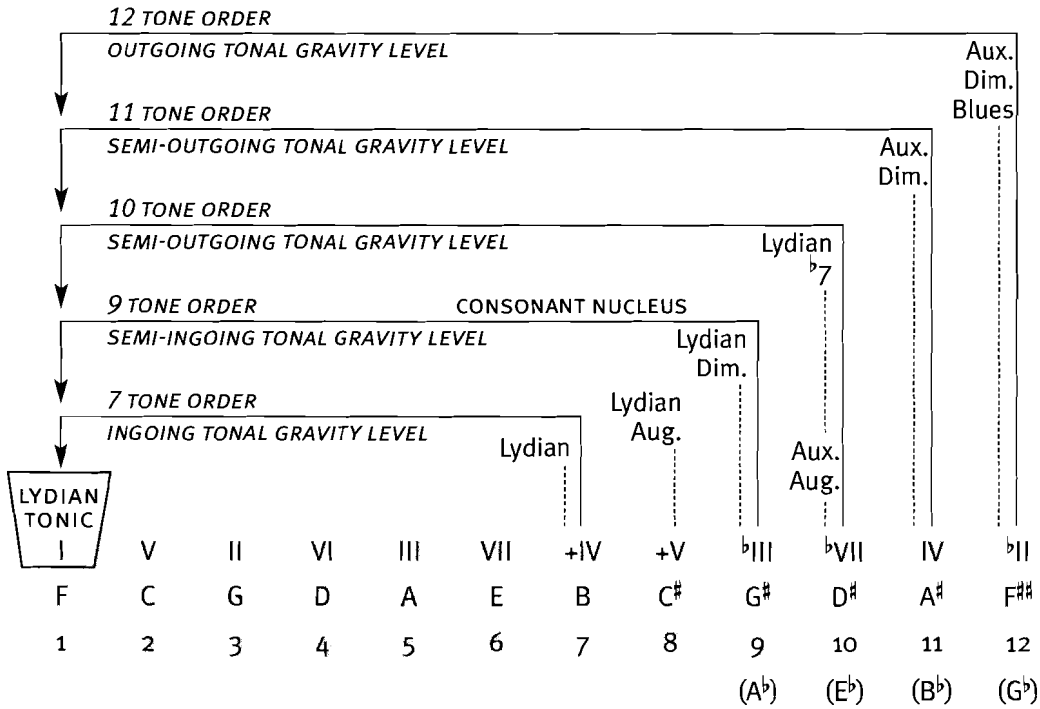
2. See Example 11:3.

The Lydian Chromatic Scale

The Seven Principal Scales—four scales of Lydian derivation and three auxiliary scales—are the *Principal Chord-Producing Scales* of the LYDIAN CHROMATIC SCALE. They exist as the PRIMARY PARENT SCALES for all traditionally definable chords of Western harmony. Example II:3 shows the ingoing-to-outgoing sequence of the Seven Principal Scales to parallel the five tonal orders of the Lydian Chromatic Scale itself. These two aspects of the Lydian Chromatic Scale exist in complete conformity. It may be said that the Seven Principal Scales are the unified products of their respective tonal orders within a Lydian Chromatic Scale, naturally inheriting the fundamental tonal color of their particular order.

EXAMPLE II:3

The Lydian Chromatic Order of Tonal Gravity



In showing the Lydian Scale's ladder of fifths structure to incorporate the first seven tones of the Lydian Chromatic Scale, Example II:3 clearly indicates the reason for the Lydian Scale's designation as the SEVEN TONE ORDER/

1. The arrows pointing downward symbolize the phenomena and magnetic "pull" of Tonal Gravity always being directed to fall on the Lydian Tonic.

INGOING TONAL LEVEL of the Lydian Chromatic Scale. As a UNIFIED TONAL GRAVITY FIELD, the Lydian Scale serves not only as the genesis of Tonal Gravity and the foundation of the Lydian Chromatic Scale, but also as the seminal source of chord/scale unity.

The eighth tone in the Lydian Chromatic Scale—the raised fifth degree (scale step C♯ in the F Lydian Chromatic Scale)—produces the Lydian Augmented Scale. The Lydian Diminished Scale is the representative scale for the ninth tone of the Lydian Chromatic Scale, the diminished third degree (A♭ in the F Lydian Diminished). Both the Lydian Augmented and Lydian Diminished Scales represent the SEMI-INGOING TONAL GRAVITY LEVEL or NINE-TONE VERTICAL ORDER of the Lydian Chromatic Scale.

As the embodiment of the Lydian, Lydian Augmented and Lydian Diminished Scales, the nine-tone order houses the fundamental chord types of the Western harmonic spectrum: major, minor, seventh, augmented, and diminished. For this reason the nine-tone order (the shaded area of scale steps 1 through 9) is referred to as the CONSONANT NUCLEUS of the Lydian Chromatic Scale.

The tenth degree of the Lydian Chromatic Scale (E♭ in the F Lydian Chromatic Scale) generates the LYDIAN FLAT-SEVENTH SCALE as well as the AUXILIARY AUGMENTED SCALE. These two scales represent the TEN-TONE VERTICAL ORDER of the Lydian Chromatic Scale.

The fourth degree, representing the ELEVEN-TONE VERTICAL ORDER of the Lydian Chromatic Scale (the note B♭ in the F Lydian Chromatic Scale) produces the AUXILIARY DIMINISHED SCALE, a highly useful scale in many kinds of musical circumstances due to the hybrid nature endowed upon it by the presence in its structure of both the fourth and the raised fourth degrees. As the strongest of the Lydian Chromatic Scale's vertical tones, the raised fourth degree has a neutralizing effect upon the strongest of its horizontal tones, the fourth degree. This powerful relationship, plus its perfect whole-step/half-step symmetry, makes the auxiliary diminished scale entirely applicable in many musical situations. The Lydian Flat-Seventh, Auxiliary Augmented and Auxiliary Diminished Scale, as ten and eleven-tone vertical order scales, belong to the SEMI-OUTGOING LEVEL OF TONAL GRAVITY of the Lydian Chromatic Scale.

The last of the Seven Principal Scales is the AUXILIARY DIMINISHED BLUES SCALE, produced by the flat-second degree of the Lydian Chromatic Scale and

representative of the OUTGOING LEVEL OF TONAL GRAVITY and the TWELVE-TONE VERTICAL ORDER.

In Examples II:2 and II:6, tones I and VI of member scales are underscored because they represent the modal tonics of the (I) major and (VI) minor chords of the Lydian Chromatic Scale. Major and minor chords are the most final sounding of all chords, often functioning as TONIC STATIONS to which a chord progression may resolve. In this way, the major and minor chords found on modal tonics I and VI of member scales of the Lydian Chromatic Scale may function as cadence centers (tonic stations) for chord progressions. The most final sounding tonic station chords are naturally the I major and VI minor chords of the Lydian Scale (Seven-Tone Order).[1]

EXAMPLE II:4

THE LYDIAN CHROMATIC SCALE—WESTERN ORDER OF TONAL GRAVITY

The Lydian Chromatic Order of Tonal Gravity

I V II VI III VII +IV +V ♭III ♭VII IV ♭II

EXAMPLE II:5

F LYDIAN CHROMATIC SCALE

The Lydian Chromatic Order of Tonal Gravity Based on F as the Lydian Tonic

F C G D A E B C♯ A♭ E♭ B♭ G♭

The skipping of the interval of a fifth between the seventh and eighth tones of the Lydian Chromatic Scale allows the five basic chord categories of Western harmony to be assimilated by its Nine-Tone Order, Semi-Ingoing Level, in the logical order of their development in Western harmony and the Lydian Chromatic Scale.[2] In fact, it is precisely this accommodation to the

1. TONIC STATION CHORD is a functional term used to designate a major or minor cadential center. Major and minor genres are strongest in their capacity to finalize preceeding non-finals. However, major and minor chords may be used simply as passing chords within a chord progression. Therefore, they may or may not function as Tonic Station Chords. A definitive feature of a functioning Tonic Station Chord (major or minor) would very likely be a noticeably longer pause on that chord's harmonic rhythm.

2. The Lydian Chromatic Concept considers augmented and dimished chords to belong fundamentally to the MAJOR CHORD MANSION of the Lydian Chromatic Scale. (See types of major chords listed over the roman numeral I column on Chart A.)

evolution of Western harmony's major, minor, seventh, augmented, and diminished chord categories that accounts for referring to the Lydian Chromatic Scale as THE WESTERN ORDER OF TONAL GRAVITY. This structure does not alter the essential qualities of a tonal gravity field created by the sequential series of fifths. The Lydian Chromatic Scale retains these qualities of its Pythagorean prototype while at the same time being in accord with the development of Western harmony.

Twelve identically structured Lydian Chromatic Scales exist within the Lydian Chromatic Concept of Tonal Organization. Each of the twelve tones of the traditional chromatic scale functions as the Lydian Tonic of its respective Lydian Chromatic Scale. In addition, any of the twelve Lydian Chromatic Scales may function as the Lydian Chromatic Scale of current reference (i.e., the prevailing Lydian Chromatic Scale) at any given time.

The Four Horizontal Scales of the F Lydian Chromatic Scale

The remaining four scales of the eleven member scales of a Lydian Chromatic Scale are termed HORIZONTAL SCALES. They are horizontal because they include the fourth degree in their structure (B♭ in the F Lydian Chromatic Scale). As previously explained, the interval from *do* to *fa* is the strongest horizontal interval; whenever one relates to a tonical *do* (the Lydian Tonic, in the case of the eleven member scales) and the fourth degree is present, the tonal environment of the scale will have a quality of resolution, striving to become a unity with the I major or VI minor tonic station.

Existing in an eternal state of "becoming" and recurring tension, the duality and resolving tendency of the following four scales qualify their status as horizontal:

EXAMPLE II:6

The Four Horizontal Scales of the F Lydian Chromatic Scale

1. THE MAJOR SCALE	F MAJOR
I II III IV V VI VII	F G A B♭ C D E
2. THE MAJOR FLAT SEVENTH SCALE	F MAJOR FLAT SEVENTH
I II III IV V VI ♭VII	F G A B♭ C D E♭

3. THE MAJOR AUGMENTED FIFTH SCALE	F MAJOR AUGMENTED FIFTH
I II III IV V +V VI VII	F G A B♭ C♮ C♯ D E
4. THE AFRICAN-AMERICAN BLUES SCALE	F LYDIAN FLAT SEVENTH
I (II) ♭III III IV +IV V VI ♭VII (VII)	F (G) A♭ A♮ B♭ B♮ C D E♭ (E)

Qualitative Differences Between Vertical and Horizontal Scales

The *natural tendency* of the Seven Vertical Principal Scales is to create the harmonic genre of all traditionally definable chords. Horizontal scales possess a natural tendency to create the sound of their I major or VI minor tonic station genre, behaving as TONIC STATION MODALITIES. All eleven member scales may eventually be used in both vertical and horizontal tonal gravity environments. This will be discussed later in the text.

The chief feature of a horizontal scale is its tendency to resolve to its mode I major or VI minor tonic station chords. It is for this reason that they are used principally as tonic station modalities. Vertical scales represent a union with the chords they produce. Mode I of the four horizontal scales of the F Lydian Chromatic Scale sounds an *active tendency to resolve* to the F major modal tonic. Mode I of each of the Seven Vertical Principal Scales of the F Lydian Chromatic Scale sound varying degrees of *passive unity* with the F major chord. The four horizontal scales of F Lydian Chromatic sound an *active tendency to resolve* to the D minor modal tonic. Mode VI of the Seven Principal Scales of the F Lydian Chromatic Scale sound various colors of *passive unity* with the D minor chord.

In other words, modes I major and VI minor of the Lydian Chromatic Scale's Seven Principal Scales are endowed with a PASSIVE VERTICAL FORCE causing them to *sound in a state of unity* with the major chord on their Lydian Tonic and minor chord on their sixth degree. Conversely, modes I major and VI minor of the four horizontal scales of the Lydian Chromatic Scale possess an ACTIVE HORIZONTAL FORCE that causes them to be in the *state of resolving* to these two modal tonic degrees. These two forces—the passive vertical force and the active horizontal force are two of the three "modes of behavior" of tonal gravity.

As previously stated, a Lydian Chromatic Scale (also referred to in this

text as the abbreviated "LC Scale") has eleven member scales rooted on the Lydian Tonic. Of these, seven are termed VERTICAL PRINCIPAL SCALES because of their chord-producing function as parent scales for all definable chords. Their derivation is consistent with the tonal order of the LC Scale itself, endowing them with the quality of existing in the state of unity with the prevailing Lydian Tonic.

The four HORIZONTAL SCALES of a LC Scale all contain the fourth degree in their structure. This causes them to *exist in the state of resolving* (cadencing) to the Lydian Tonic I Major or Mode VI Minor chordmodes of their Parent LC Scale.

CHAPTER III

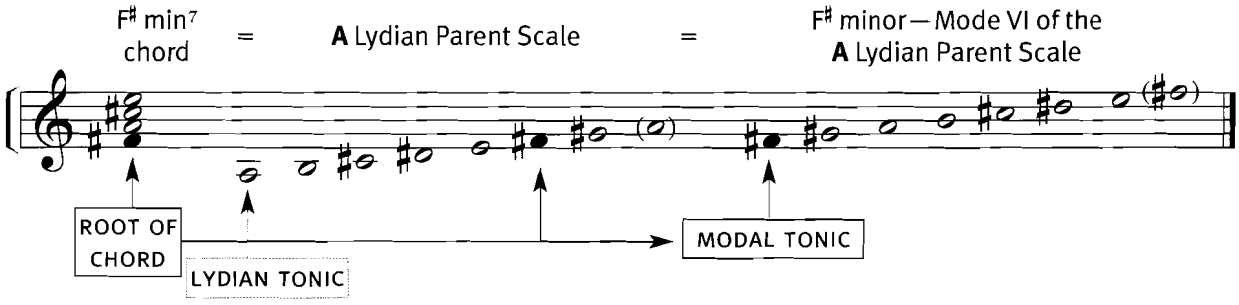
The Principal Chords and Primary Modal Genres of the Lydian Chromatic Scale

Introduction: The Definition of "Chordmode"

A musician on the level of Vertical Tonal Gravity relates to the chord of the moment (the PREVAILING CHORD) and its parent scale to derive a melody that expresses the chord's harmonic sound (its HARMONIC GENRE). The chord and its parent scale are an inseparable entity—the reciprocal sound of one another.

The root of a chord is its MODAL TONIC within the parent scale. The actual sound of the chord is *that mode of the parent scale which begins on the chord's modal tonic*:

EXAMPLE III:1



N.B.: Chapter III is a continuation of the theoretical foundation of the Lydian Chromatic Concept. Those who are eager to begin working may at this point proceed directly to Chapter IV, which introduces the student to the Lydian Chromatic Concept's methodology. However, because of the unusual circumstances surrounding the Concept's discovery and development, as well as its justification of the PRINCIPLE OF CHORD/SCALE UNITY, the fundamental principle upon which it is founded, it is unlikely that one could have a thorough knowledge of the Lydian Chromatic Concept of Tonal Organization ("LCCTO") without an understanding of Chapter III.

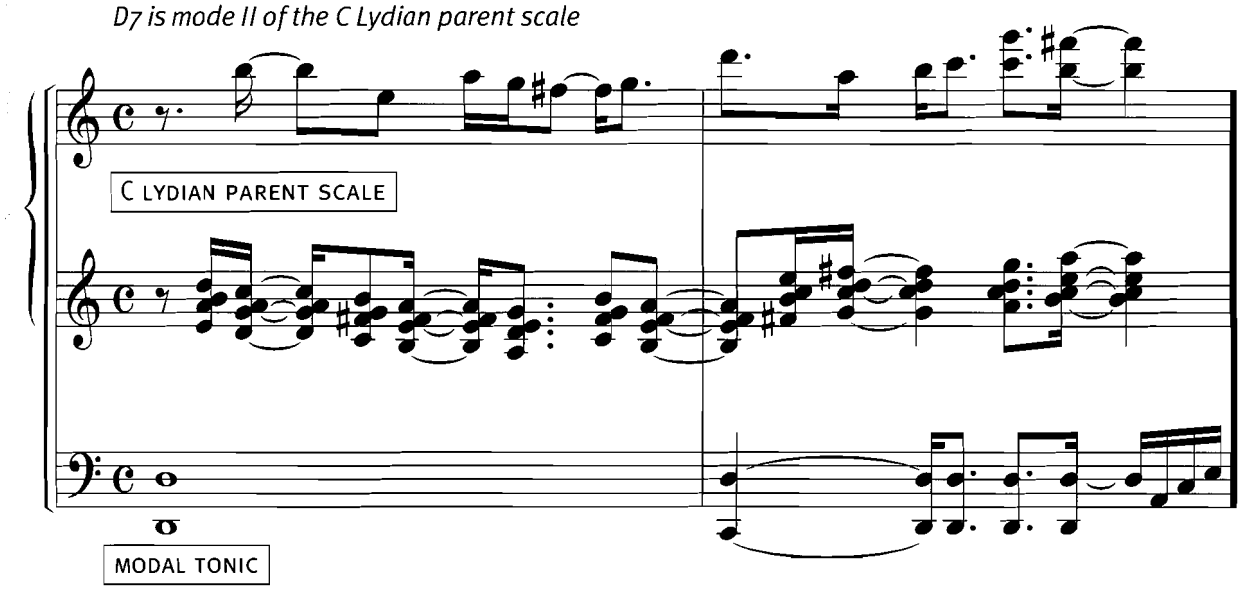
In other words, the complete sound of a chord is its corresponding mode within its parent scale. Therefore, the broader term CHORDMODE is substituted for what is generally referred to as "the chord."

Referring to a chord as a chordmode creates a broader basis for the sounding of a chord than traditional chord tones alone offer. The chordmode (parent scale sounding over the modal tonic of the chord) allows the sound of a chord to be conveyed monophonically, contrapuntally, polyphonically, as well as homophonically (i.e., in chord formation). In any of these manners, the chordmode provides a complete frame of reference for exploitation of the chord.

EXAMPLE III:2

The D7 chordmode exploited polyphonically

D7 is mode II of the C Lydian parent scale



The terms "chord" and "chordmode" will, from this point on, be used interchangeably on the assumption that the reader understands "chord" to be the harmonic equivalent of its corresponding mode, and "mode" to be the broader musical equivalent of the chord—all within the context of their mutually shared parent scale.

It is important to remember the relationship between the chordmode's modal tonic degree and the Lydian Tonic of its parent scale. The Lydian Tonic is the source of a chordmode's tonal organization—its parent Lydian

Chromatic Scale.[1] The modal tonic degree root of the chordmode dictates its harmonic genre. The interval between a chordmode's modal tonic degree and parent Lydian Tonic is called the Lydian Tonic Interval. The Lydian Tonic Interval is the key which opens the door to the vast tonal resources of Vertical Tonal Gravity.

Continuation of the Theoretical Foundation of the Lydian Chromatic Concept

The Seven Principal Scales of the Lydian Chromatic Scale produce all the traditionally definable chords of Western music theory. In Concept terms, they can be understood as the parent scales—scales of origin and unity—for all traditionally definable chords. The first of these seven is the seminal scale on which the Lydian Chromatic Concept is founded and the most ingoing of Principal Scales—the Lydian Scale.

The Lydian Scale has seven modes, each rooted on a different degree of the seven Lydian Scale tones (modal tonic degrees). Each mode follows the natural stepwise sequence of the Lydian Scale octave from a given modal tonic degree to its equivalent one octave higher. Additionally, each of the seven Lydian Scale modes projects its own unique harmonic genre or vertical color when sounded either monophonically, homophonically, contrapuntally, or polyphonically. The chordal or homophonic form of a mode is referred to as its Principal Chord or Principal Chordmode.

The following examples feature the seven modes of the Lydian Scale and their Principal Chords. Each Principal Chord is an arrangement of the tones of a mode into the mode's most "harmonically evolved" (complete) chordal genre. The Principal Chord, more than any other, exists as the essential vertical harmonic genre (chord color) of its relative mode within a shared parent scale, i.e., the Lydian Scale in the following examples.

The Principal Chord and its parent mode within their mutual parent scale are the reciprocal sound of one another: they are a chord/scale unity, a chordmode. It is for this reason that the musician should substitute the term chordmode for 'chord' when indicating the broader tonal environment of a chord.

1. Sometimes to be referred to hereafter in its abbreviated fashion as the Parent LC Scale.

Each Principal Chord produces descendant, or derivative chords on its modal tonic degree which represent essential SUB-PRINCIPAL CHORDS. These chords carry the same essential harmonic identity as the Principal Chord, but are "less evolved" (i.e. have fewer extensions) than the complete Principal Chordmode, which contains all tones of the mode. Although a Sub-Principal Chord doesn't contain all the tones of its relative Principal Chordmode, it still exists in a state of unity with its parent Principal Scale. A Principal Chord and its descendant Sub-Principal Chords are referred to as a PRINCIPAL CHORD FAMILY.

The Principal Chord Families of the Lydian Scale

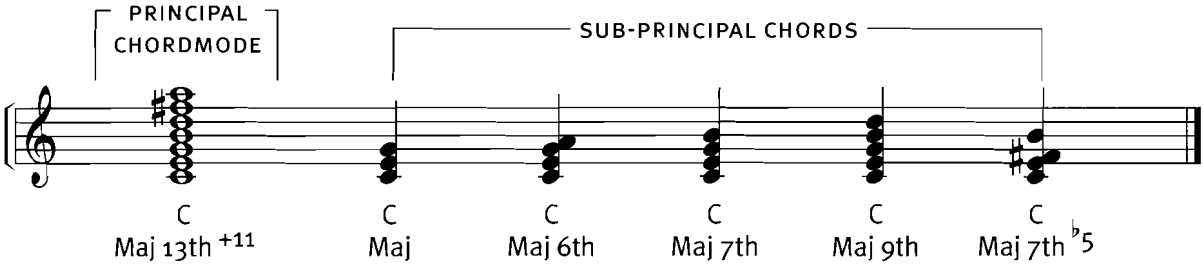
LYDIAN MODE I Major—Principal Chord Family

The Lydian Scale sounds a unity with its mode I major Principal Chord Family existing on the scale's Lydian Tonic, C♮ in this example.

C LYDIAN MODE I:	I	II	III	+IV	V	VI	VII
	C	D	E	F♯	G	A	B

CHORDS PRODUCED: C Lydian Mode I major Principal Chord Family

EXAMPLE III:3



C Lydian major thirteenth

Bear in mind that the Seven Principal Scales on Chart A are listed in the descending order of their ingoing-to-outgoing relationship to the Lydian Tonic of an LC Scale. This makes the major thirteenth Principal Chordmode, introduced by the C Lydian Scale on its Lydian Tonic, the first and consequently most ingoing Principal Chordmode of an extensive category consisting of various types of mode I major chords created by the more altered principal scales sounding on roman numeral I, the Lydian Tonic of a LC Scale.

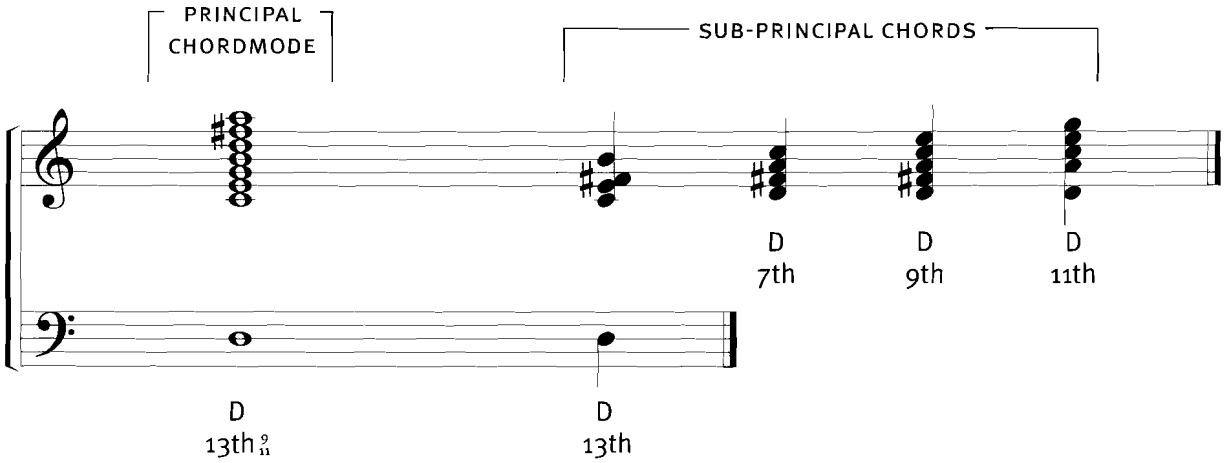
LYDIAN MODE II Seventh–Principal Chord Family

The Lydian Scale sounds a unity with its mode II seventh Principal Chord Family structured on its second degree modal tonic, D♮ in this case.

C LYDIAN MODE II:	II	III	+IV	V	VI	VII	I
	D	E	F♯	G	A	B	C

CHORDS PRODUCED: C Lydian Mode II seventh Principal Chord Family

EXAMPLE III:4



The D thirteenth Principal Chordmode produced by the C Lydian Scale on its second modal tonic degree is the first and consequently most ingoing Principal Chordmode of an extensive category consisting of variously altered mode II seventh/altered seventh chords. These are listed above roman numeral II of their corresponding parent principal scale on Chart A. The entire category of seventh chords listed over roman numeral II of various principal scales on Chart A forms the II SEVENTH/ALTERED SEVENTH PRIMARY MODAL GENRE OF THE LC SCALE. Included in this category are chords produced by the auxiliary diminished blues scale, a scale which, although lacking PMT II, produces highly altered chords of the seventh type when its Principal Chord is superimposed on PMT II of the LC Scale. This will be explained in detail later in this chapter.

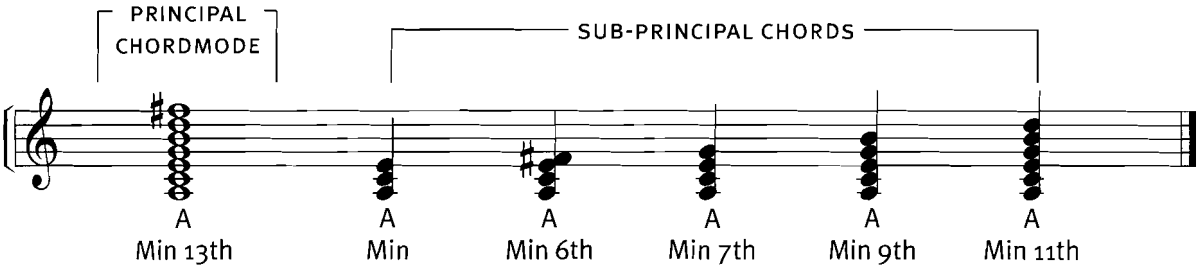
LYDIAN MODE VI Minor—Principal Chord Family

The Lydian Scale sounds a unity with the VI minor Principal Chord Family lying on its sixth modal tonic degree, A♮ in this example.

C LYDIAN MODE VI:	VI	VII	**I**	II	III	+IV	V
	A	B	**C**	D	E	F♯	G

CHORDS PRODUCED: C Lydian Mode VI minor Principal Chord Family

EXAMPLE III:5



The A minor thirteenth Principal Chordmode, produced by the C Lydian Scale on its sixth modal tonic degree, is the first and consequently most ingoing Principal Chordmode of an extensive category consisting of variously altered types of mode VI minor chords. These are listed above roman numeral VI of their parent principal scales on Chart A. The entire category of minor chords listed over roman numeral VI of various principal scales on Chart A forms the VI MINOR/ALTERED MINOR PRIMARY MODAL GENRE OF THE LYDIAN CHROMATIC SCALE.

The five fundamental chord families of traditional Western harmony are:

MAJOR	AUGMENTED
MINOR	DIMINISHED [1]
SEVENTH	

Three of these—major on the Lydian Tonic, minor on the sixth modal tonic degree, and seventh on the second modal tonic degree of the LC Scale—exist harmoniously as Principal Chord Families within the community of a common parent scale, the C Lydian Scale in these examples.

The Lydian Scale's remaining four Principal Chord Families are also the

1. Augmented and diminished chords are regarded as belonging primarily to the I major and VI minor chord categories of the Lydian Chromatic Scale.

first of their harmonic type to be listed on Chart A. They are located above their respective modal tonic degrees of the Lydian Scale and are the most ingoing Principal Chords of an assemblage of Principal Chord Families rooted on the same modal tonic degrees and containing more altered versions of the corresponding type.

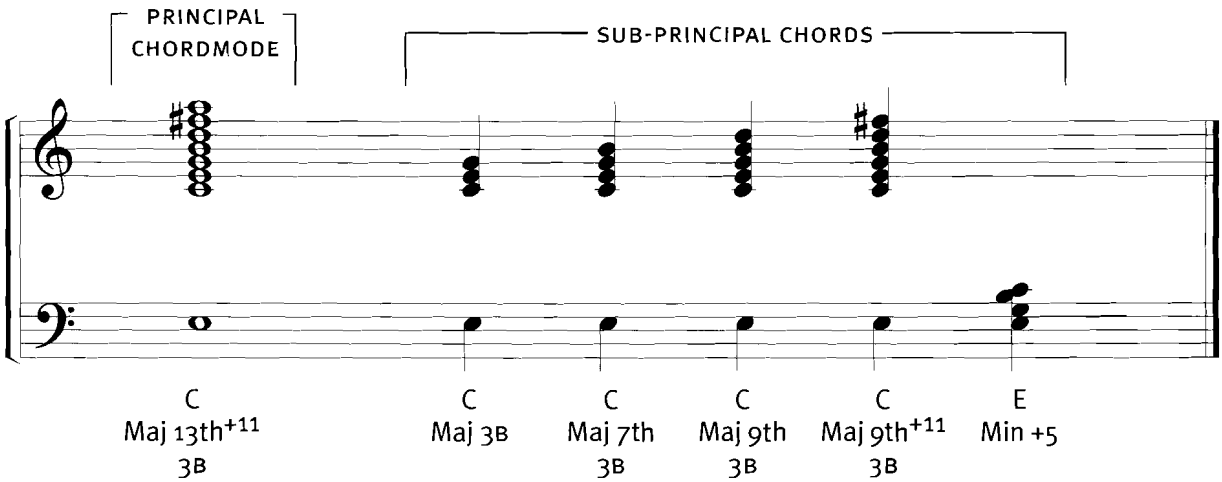
LYDIAN MODE III Major (IIIB/Minor +5)—Principal Chord Family

The Lydian Scale sounds a unity with the Mode I major IIIB[1]/minor +5 Principal Chord Family produced on its third modal tonic degree, E♮ in this case.

C LYDIAN MODE III:	III	+IV	V	VI	VII	**I**	II
	E	F♯	G	A	B	**C**	D

CHORDS PRODUCED: C Lydian Mode III, major (IIIB)/(minor +5)
Principal Chord Family

EXAMPLE III:6



LYDIAN MODE +IV Minor Seventh ♭5/Major (+IVB) —Principal Chord Family

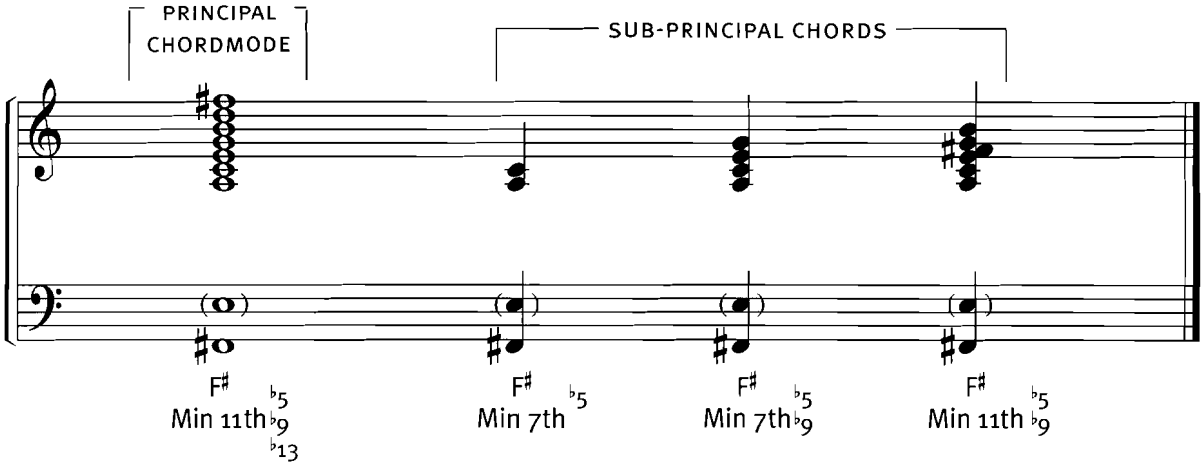
The Lydian Scale sounds a unity with the minor seventh ♭5/mode I major +4B Principal Chord Family residing on its raised fourth modal tonic degree, F♯ in this example.[2]

1. Lydian Mode I major chord sounding over the third degree of the chord (modal tonic III of the Lydian Scale) is notated throughout this book as either IIIB or 3B.
2. Augmented fourth degree of the Lydian Scale in the bass.

C LYDIAN MODE +IV: +IV V VI VII **I** II III
F♯ G A B **C** D E

CHORDS PRODUCED: C Lydian Mode +IV, minor seventh ♭5, major (+IVB)
Principal Chord Family

EXAMPLE III:7



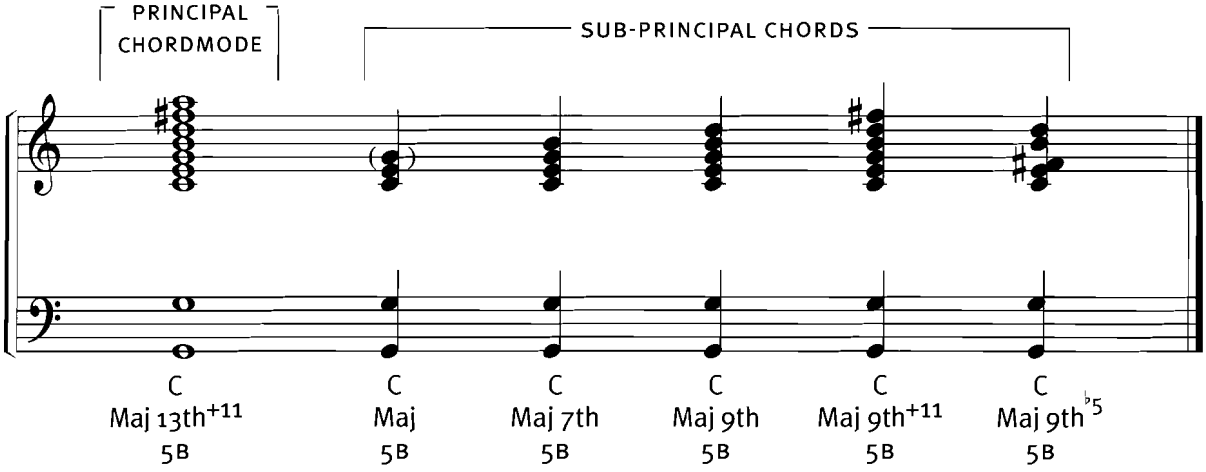
LYDIAN MODE V Major (VB)—Principal Chord Family

The Lydian Scale sounds a unity with its Mode I major 5B Principal Chord Family situated on modal tonic degree V, G♮ in the example.[1]

C LYDIAN MODE V: V VI VII **I** II III +IV
G A B **C** D E F♯

CHORDS PRODUCED: C Lydian Mode V, major (VB) Principal Chord Family

EXAMPLE III:8



1. The fifth degree of the I major chord (degree V of its parent scale) in the bass.

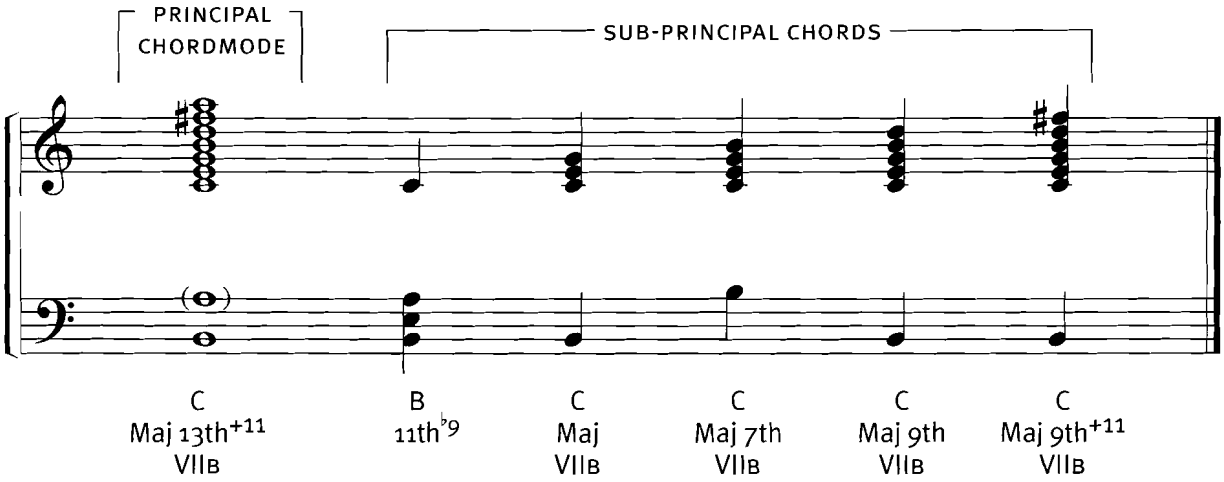
LYDIAN MODE VII Eleventh ♭9/Major (VIIB)
—Principal Chord Family

The Lydian Scale sounds a unity with the eleventh ♭9/Mode I major 7B Principal Chord Family established on its seventh degree modal tonic, B♮ in this example.[1]

C LYDIAN MODE VII:	VII	I	II	III	+IV	V	VI
	B	C	D	E	F♯	G	A

CHORDS PRODUCED: C Lydian Mode VII, eleventh ♭9, major (VIIB) Principal Chord Family

EXAMPLE III:9



All of these seven Principal Chord Families exist in a state of unity with their parent scale—the C Lydian Scale. Try sounding the C Lydian Scale over each of its seven modal tonic degrees to experience the complete sound (harmonic genre) of these seven distinct chord families.

1. The major seventh degree of the Lydian I major chord (and parent scale) in the bass.

The Eight Primary Modal Genres of the Lydian Chromatic Scale

Each Principal Chordmode produced by the seven modes of the Lydian Scale is actually the Primary Principal Chordmode[1] (or "Founding Chordmode") of a category containing variously altered Principal Chordmodes of the same basic harmonic genre, produced by the more outgoing Principal Scales on that identical modal tonic degree. PRIMARY MODAL GENRE (PMG) is the proper term for a Principal Chordmode category. The left column on Chart A lists the eight primary modal genres of the Lydian Chromatic Scale.

The modal tonic degree on which a PMG resides is called its PRIMARY MODAL TONIC degree (PMT). These are the large roman numerals to the left of each PMG title on Chart A. As you look down this column of PMT degree roman numerals, you can see that the first seven represent the structure of the Lydian Scale. In other words, each tone of the Lydian Scale is the modal tonic degree not only of a Principal Chord, but also of a Primary Modal Genre (Principal Chordmode category) initially founded by a Lydian Scale Primary Principal Chordmode.

For example, the right side of Chart A shows the Lydian Scale producing the pure, unified I major Principal Chord Family on modal tonic degree I. The Lydian Augmented Scale produces the slightly more altered augmented major Principal Chord Family and the Lydian Diminished Scale produces the diminished major Principal Chord Family also on PMT I. Scanning down the I major Principal Chord column of Chart A, one sees the other Principal Scales producing their own more altered types of I major Principal Chords on the Lydian Tonic (modal tonic degree I) of the LC Scale.

The entire column of modal tonic I Principal chord families listed on Chart A forms the I major Primary Modal Genre (PMG) of the LC Scale.

> *A PMG is an assemblage of Principal Chord Families of similar type: a Principal Chord Family mansion housing the spectrum of variously colored Principal Chord Families of the same essential harmonic genre.*

So far, the seven Primary Principal Chordmodes of the Lydian Scale have been introduced. These are the basis for the first seven chord categories or

1. First in order of development: the founding chord of one of the LC Scale's eight PMG.

Primary Modal Genres (PMG) listed in the left column of Chart A. The eighth and final PMG of the LC Scale is established on the eighth tone of the *Lydian Chromatic Order of Tonal Gravity*,[1] the augmented fifth degree (+V), and is founded by the Lydian Augmented Scale.

The Lydian Augmented Scale is second in the descending order of Principal Scales listed on the right side of Chart A. Its structure is nearly identical to that of the Lydian Scale, except that the fifth degree is raised to accommodate the eighth tone of the LC Order of Tonal Gravity (the tone G♯, or +V degree of the C Lydian Chromatic Scale). Chart A shows the Lydian Augmented Scale to contribute augmented versions to the PMG established by the Primary Principal Chordmodes of the Lydian Scale.

The Lydian augmented scale also produces a new Primary Principal Chordmode on its +V degree. This Primary Principal Chordmode—the seventh +5/♭9/+9/+11—founds the eighth PMG of the LC Scale: the +V seventh +5 Primary Modal Genre of the Lydian Chromatic Scale, to which any seventh chord with an augmented fifth primarily belongs.

1. See Example III:10.

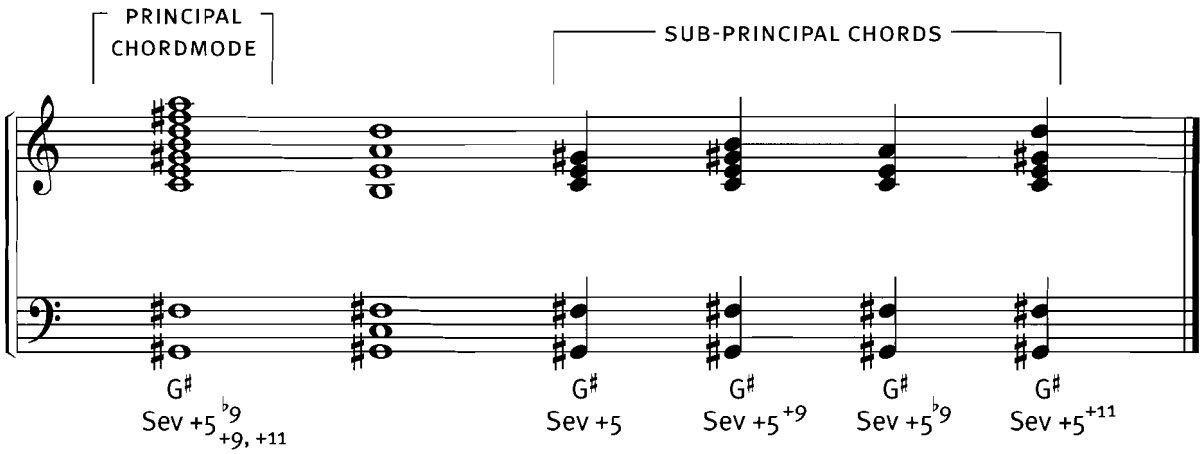
LYDIAN AUGMENTED MODE +V Seventh +5
—Principal Chord Family

The Lydian Augmented Scale sounds a unity with the seventh +5/♭9/+9/+11 Principal Chord Family residing on its +V modal tonic degree, G♯ in this case.

C LYDIAN AUG MODE +V:	+V	VI	VII	**I**	II	III	+IV
	G♯	A	B	**C**	D	E	F♯

CHORDS PRODUCED: C Lydian Augmented Mode +V, seventh +5, Principal Chord Family

EXAMPLE III:10



The G♯ seventh +5, ♭9, +9, +11 Principal Chord produced by the C Lydian Augmented Scale on its augmented fifth modal tonic degree is the first and most ingoing Principal Chord of its type within this unique Principal Chord-mode category. Together with its primary modal tonic degree +V of the LC Scale, this Primary Principal Chord founds the +V seventh +5 Primary Modal Genre of the LC Scale. This is the least ingoing of the LC Scale's eight Primary Modal Genres.

These eight PMG of the LC Scale listed on the left side of Chart A inherit the title of their primary Principal Chord. They represent the Primary Chord/Parent Scale unities (vertical colors) of the equal tempered tonal spectrum.

The left side of Chart A explains the process that allows virtually all chords of Western music's tonal spectrum to be identified with their proper

PMG of the LC Scale. The instructions listed below each PMG on Chart A inform the musician how to locate a chord's Primary Parent LC Scale, and within that, its Primary Parent Scale (scale of maximal unity).[1]

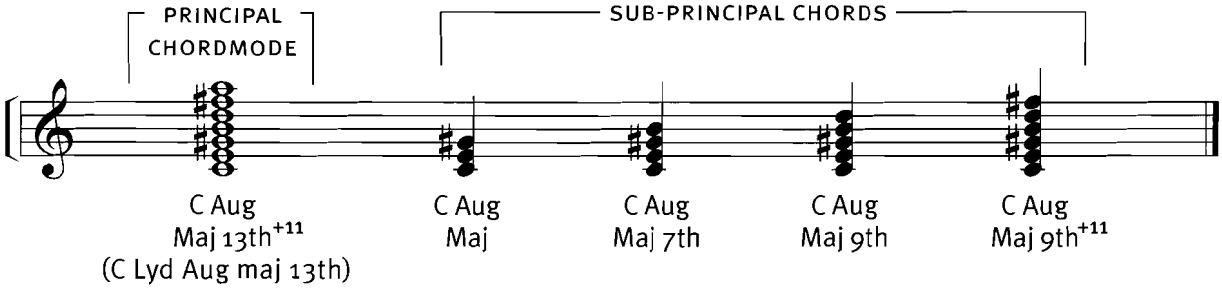
LYDIAN AUGMENTED MODE I Aug Major—Principal Chord Family

Here, the Lydian Augmented Scale introduces its own Mode I augmented major Principal Chordmode into the Lydian Chromatic Scale's I major/ altered major Primary Modal Genre. The Lydian Augmented Scale sounds a unity with the Lydian Augmented major thirteenth +11th Principal Chord Family situated on its Lydian Tonic, C♮ in this example.

C LYDIAN AUG MODE I:	**I**	II	III	+IV	+V	VI	VII
	C	D	E	F♯	G♯	A	B

CHORDS PRODUCED: C Lydian Augmented Mode I, augmented major Principal Chord Family

EXAMPLE III: 11



The Lydian Augmented Scale provides augmented versions of the Lydian Scale's Mode I major principal and Sub-Principal Chords. In doing so it introduces the augmented chord of traditional Western music into the I major/ altered major Primary Modal Genre of the LC Scale, where it finds its true scale of unity—the Lydian Augmented Scale.

1. If you're trying to locate the parent LC Scale you should always first associate the chord with its proper PMG on Chart A and let the instruction below it guide you to the proper parent LC Scale. The left side of Chart A is its *brain*; the right side is its *body* (of Principal Scales). Using the *brain* of Chart A first (as directed below each of its PMGs) immediately connects you with its *body* of Principal Scales.

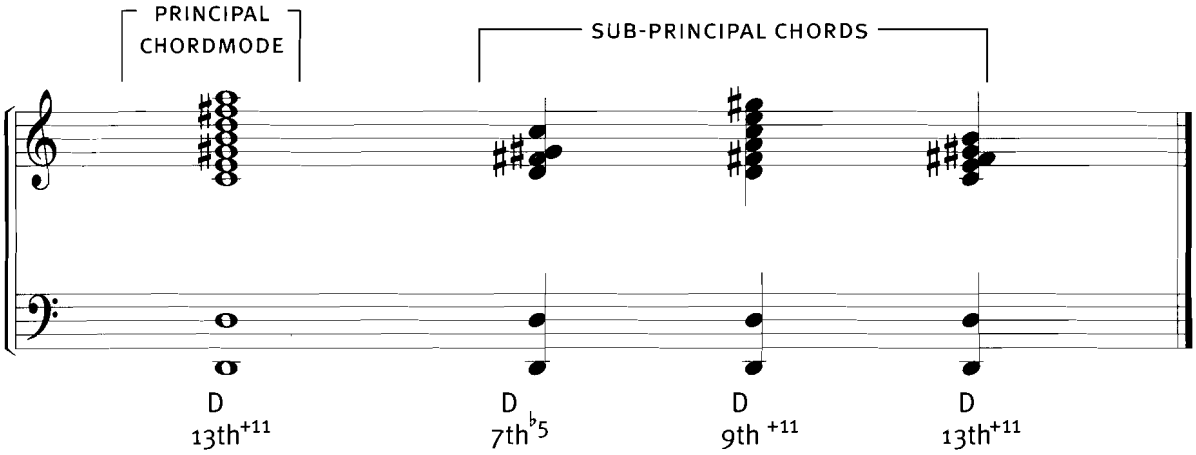
LYDIAN AUGMENTED MODE II Seventh +11
—Principal Chord Family

Lydian Augmented Mode II contributes augmented eleventh (or flatted fifth) families of seventh chords into the II seventh/altered seventh Primary Modal Genre of the Lydian Chromatic Scale.

C LYDIAN AUG MODE II:	II	III	+IV	+V	VI	VII	**I**
	D	E	F♯	G♯	A	B	**C**

CHORDS PRODUCED: C Lydian Augmented Mode II, seventh +11 Principal Chord Family

EXAMPLE III:12



The C Lydian Augmented Scale sounds a unity with all of its Mode II Principal and Sub-Principal Chordmodes listed above.

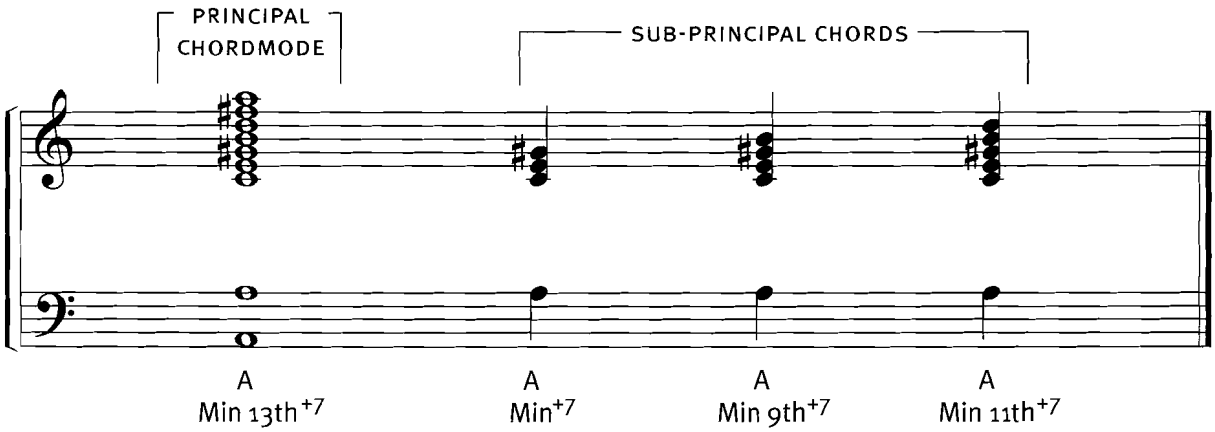
LYDIAN AUGMENTED MODE VI Minor +7
–Principal Chord Family

Lydian Augmented Mode VI contributes minor chords with an augmented (major) seventh to the VI minor/altered minor Primary Modal Genre of the Lydian Chromatic Scale.

C LYDIAN AUG MODE VI:	VI	VII	**I**	II	III	+IV	+V
	A	B	**C**	D	E	F♯	G♯

CHORDS PRODUCED: C Lydian Augmented Mode VI, minor $^{+7}$
Principal Chord Family

EXAMPLE III:13



Again, the Lydian Augmented Scale sounds a unity with all of its Mode VI minor^{+7} Principal and Sub-Principal Chordmodes.

Principal Chord Families III, +IV, and VII of the Lydian Augmented Scale are listed under their corresponding category on Chart A.

The Lydian Diminished Scale

The Lydian Diminished Scale is third in the descending order of Principal Scales listed on Chart A. Its structure is similar to the Lydian Scale, only that the third degree has been lowered (diminished) in order to accommodate the ninth tone of the Lydian Chromatic Order of Tonal Gravity (i.e., E♭ or the ♭III degree of the C LC Scale). The Lydian Diminished Scale contributes diminished versions to the Principal Chord families established initially by the Primary Principal Chords of the Lydian Scale.

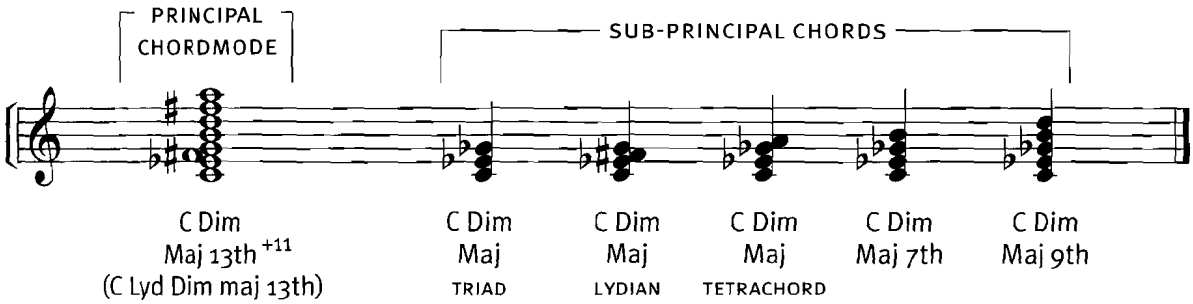
LYDIAN DIMINISHED MODE I Diminished Major
—Principal Chord Family

Lydian Diminished Mode I supplies diminished major chords to the I major/altered major Primary Modal Genre of the Lydian Chromatic Scale.

C LYDIAN DIM MODE II:	**I**	II	♭III	+IV	V	VI	VII
	C	D	E♭	F♯	G	A	B

CHORDS PRODUCED: C Lydian Diminished Mode I, diminished major Principal Chord Family

EXAMPLE III:14



The C Lydian Diminished Scale sounds a unity with all of its Mode I diminished major Principal and Sub-Principal Chord families listed in the above example.

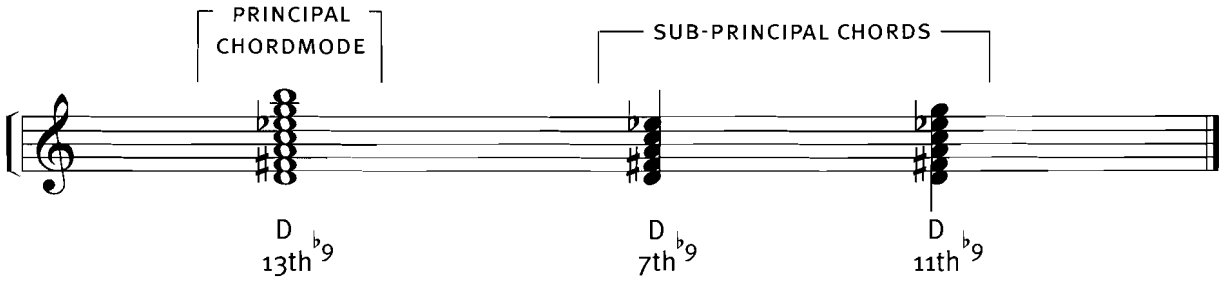
LYDIAN DIMINISHED MODE II Seventh ♭9
—Principal Chord Family

Lydian Diminished Mode II introduces flatted ninth versions of seventh chords into the Lydian Chromatic Scale's II seventh/altered seventh Primary Modal Genre:

C LYDIAN DIM MODE II:	II	♭III	+IV	V	VI	VII	**I**
	D	E♭	F♯	G	A	B	**C**

CHORDS PRODUCED: C Lydian Diminished Mode II, seventh ♭9 Principal Chord Family

EXAMPLE III:15



The C Lydian Diminished Scale sounds a unity with all of its Mode II seventh ♭9 principal and Sub-Principal Chord families.

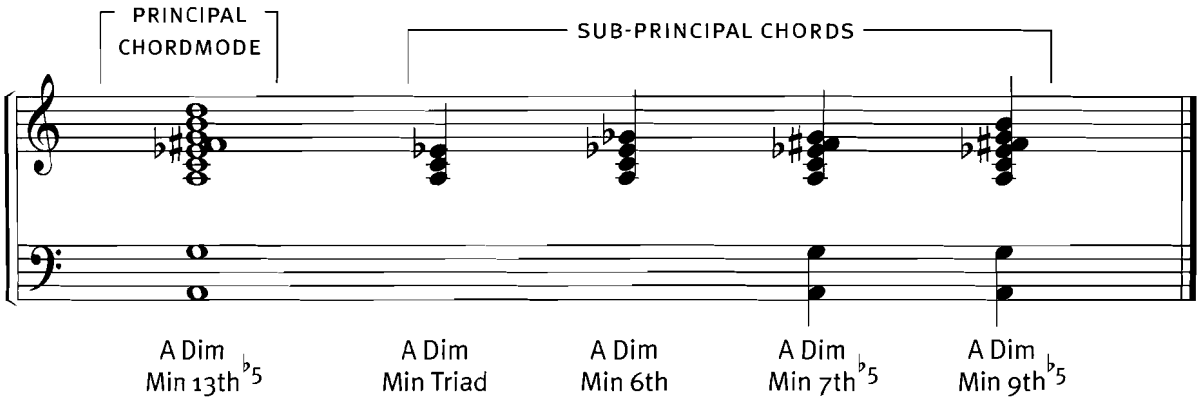
LYDIAN DIMINISHED MODE VI, Minor Seventh ♭5
—Principal Chord Family

Mode VI of the Lydian Diminished Scale contributes minor seventh ♭5 diminished minor chords to the VI minor Primary Modal Genre of the Lydian Chromatic Scale.

C LYDIAN DIM MODE VI:	VI	VII	**I**	II	♭III	+IV	V
	A	B	**C**	D	E♭	F♯	G

CHORDS PRODUCED: C Lydian Diminished Mode VI, minor seventh ♭5
Principal Chord Family

EXAMPLE III:16



The descending order of close to distant relationships of the seven principal scales on Chart A shows that the minor seventh ♭5 chord family finds its most ingoing tonal environment when rooted on primary modal tonic +IV of the Lydian Scale. In other words, an A minor seventh ♭5 chord finds its most ingoing tonal environment in the E♭ Lydian [LC] scale—its primary parent scale—and finds an interesting but less ingoing tonal environment as a mode VI minor seventh ♭5 chord of the C Lydian Diminished [LC] Scale. The A minor seventh ♭5 chord manifesting as a mode VI minor seventh ♭5 chord of the C Lydian Diminished Scale[1] represents a slightly less ingoing 9-TONE ORDER COLOR for this chord provided by the E♭ Lydian Scale, its primary parent scale given by situating the root tone A♮ on Primary Modal Tonic +IV. This is indicated on Chart A by the smaller roman numerals +IV and VI listed with Primary Modal Genres VI and +IV respectively. The smaller roman numerals listed to the right of certain PMG categories on Chart A are termed Alternate Modal Tonic degrees, and are discussed at length in Chapter VI.

1. See Example III:15.

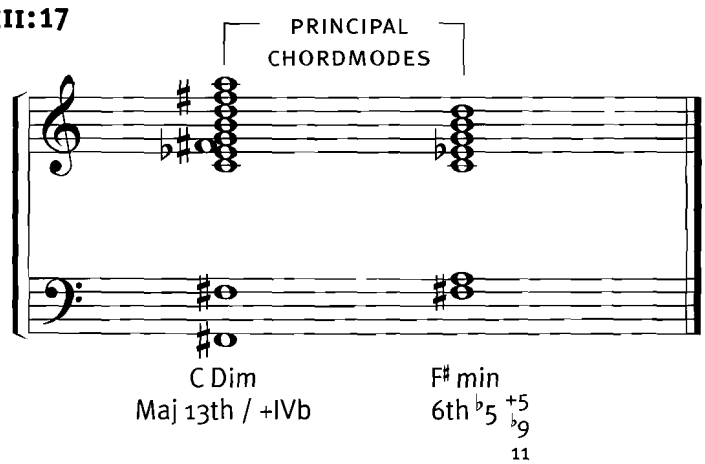
LYDIAN DIM MODE +IV Dim Maj+IVB (Min. 6th ♭5)
—Principal Chord Family

Mode +IV of the Lydian Diminished Scale produces C Lydian Diminished major +IVb (Minor 6th ♭5) versions of the +IV minor seventh ♭5 Primary Modal Genre established initially by the Lydian Scale.

C LYDIAN DIM MODE +IV:	+IV	V	VI	VII	I	II	♭III
	F♯	G	A	B	C	D	E♭

CHORDS PRODUCED: C Lydian Dim Mode I major, +IVB (minor 6th ♭5)
Principal Chord Family

EXAMPLE III:17



Principal Chord Families V and VII complete those of the Lydian Diminished Scale. These two remaining Principal Chord Families are listed under that scale's heading in the right column of Chart A.

Chart A lists the diminished major ♭3B chord over scale degree ♭III of the Lydian Diminished Scale. Chords listed over any Non-Primary Modal Tonic degree of a Principal Scale (♭III, ♭VII, IV, ♭II) are regarded as inversions of the respective scale's Mode I major chord family.

As you know, the acknowledged primary modal tonic degrees of the Lydian Chromatic Scale are the first eight tones of the Lydian Chromatic Order of Tonal Gravity represented by the descending order of large roman numerals on Chart A. The remaining degrees of the LC Scale (♭III, ♭VII, IV, ♭II), do not have PMT status; that is, while serving as modal tonic degrees for inversions[1] of their parent scale dictated type of Mode I Major Principal

1. These are inversions created by the superimposition upon the four extended LC Scale degrees of their respective Mode I Major Principal Chords within the context of the Prevailing LC Scale. For example, $\frac{\text{C dim maj}}{\text{E}^{\flat}}$ within the C Lydian Diminished Scale.

Chord, they also function as rather remote modal tonic degrees creating equally remote modal genres by the superimposition upon them of various other types of Mode I Major Principal Chords of the Prevailing LC Scale.

Addressing these remote modal genres of the LC Scale as Primary Modal Genre would diminish the meaning and intregrity of the LC Scale's eight PMG, whose tonal organization serves as the LC Scale's harmonic foundation. In this way, the LC Scale actually prioritizes tonality, while not excluding even the most radical twelve-tone (atonal) music, Also specifically demonstrated by its eight PMG is the immense degree to which they expand *the Western chordal spectrum.*[1]

As previously stated the remaining modal tonic degrees of the LC scale (♭III, ♭VII, IV, ♭II) function as tonics for modal genres imposed upon them by their respective Mode I Major Principal Chords. However, the tonical authority of these four remote modal tonic degrees of the LC Scale grows progressively more oblique in the company of equally remote principal chords of the Prevailing LC Scale.

1. Major, minor, seventh, augmented, and diminished.

LYDIAN FLAT SEVENTH MODE I Major—Principal Chord Family[1]

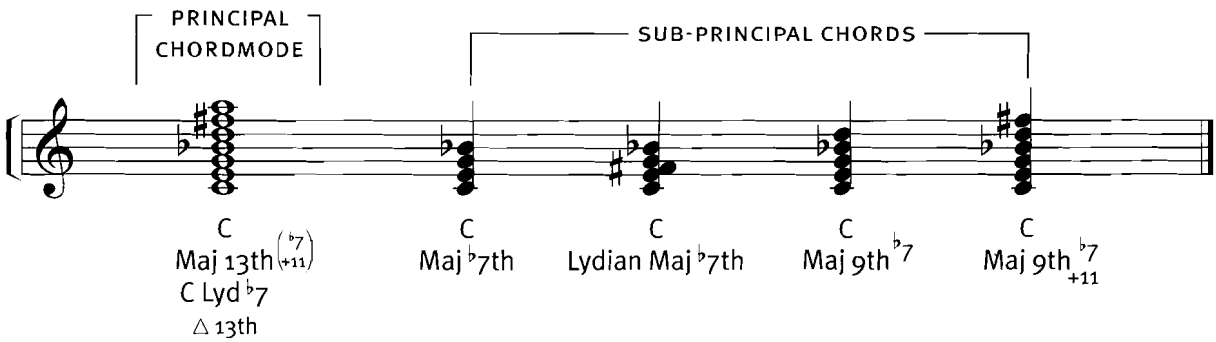
The Lydian Flat Seventh Scale, listed fourth in the descending order of Principal Scales on Chart A, incorporates the tenth tone of the LC Order of Tonal Gravity, (B♭ or the ♭VII degree of the C Lydian Chromatic Scale) into what is an essentially Lydian Scale structure.

Mode I of the Lydian Flat Seventh Scale parents tonical major chords with a flatted seventh:

C LYDIAN ♭7TH MODE I:	**I**	II	III	+IV	V	VI	♭VII
	C	D	E	F♯	G	A	B♭

CHORDS PRODUCED: Lydian Flat Seventh Mode I major (♭7th) Principal Chord Family

EXAMPLE III:18



The Lydian Flat Seventh major chord exists as a "tonical" major chord with a ♭7th degree, rather than what traditionally is termed a "dominant seventh" chord. Therefore, the Lydian Flat Seventh Mode I major ♭7th Principal and Sub-Principal Chordmodes are more outgoing altered members of the I major/altered major Primary Modal Genre of the Lydian Chromatic Scale.

1. The Lydian Flat Seventh Scale also represents partials eight through fourteen of the overtone series (see Example 1:3 in Chapter I).

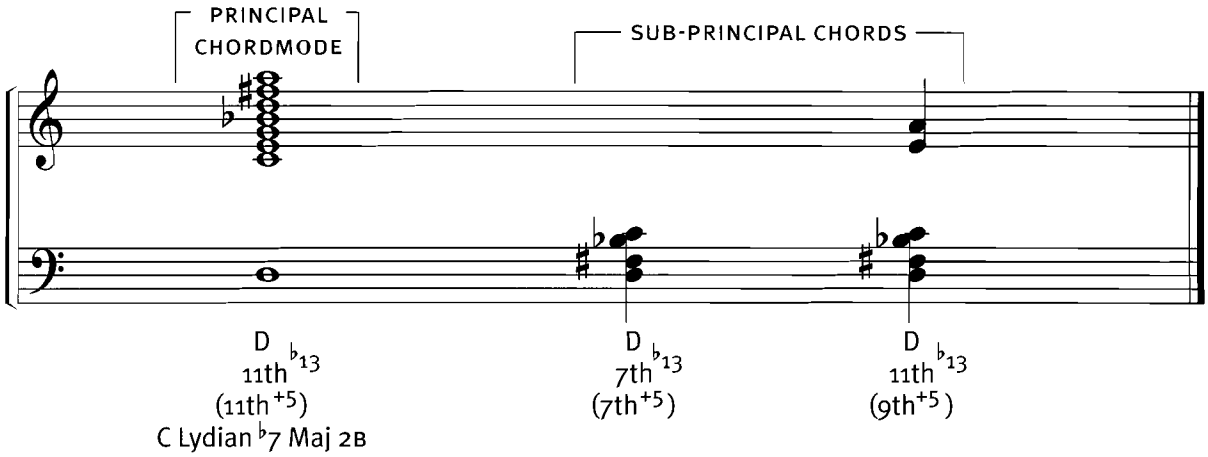
LYDIAN FLAT SEVENTH MODE II Seventh ♭13
—Principal Chord Family

Mode II of the Lydian Flat Seventh Scale contributes an eleventh ♭13 Principal Chord to the II seventh/altered seventh Primary Modal Genre of the Lydian Chromatic Scale.

C LYDIAN ♭7TH MODE II:	II	III	+IV	V	VI	♭VII	**I**
	D	E	F♯	G	A	B♭	**C**

CHORDS PRODUCED: Lydian Flat Seventh Mode II seventh ♭13th Principal Chord Family

EXAMPLE III:19



Occasionally a chord produced by one Principal Scale might be duplicated by another Principal Scale on a more outgoing Modal Tonic degree. For example, on its Modal Tonic degree II, the natural PMT degree for seventh chord genre, the C Lydian ♭7 Scale produces a D11th ♭13 (D11th +5) chord that is duplicated by Mode III of the B♭ Lydian Augmented Scale. This occurs because the C Lydian ♭7 Scale *is* Mode II of the B♭ Lydian Augmented Scale. Remember that seventh chords have their Primary (most ingoing) manifestation on Primary Modal Tonic II of the LC Scale. Alternate modal genre are more remote in relation to those with Primary status. In any case, roman numeral III is listed as an AMT degree within both the II seventh and +V seventh +5 PMG on Chart A. PMG +V remains the PMG of choice for all except the most remote types of seventh chords having a +5 degree in their structure. As Principal chords descend into the semi-outgoing and outgoing territory of Chart A, chord duplications may occur as natural manifestations of the LC Scale.

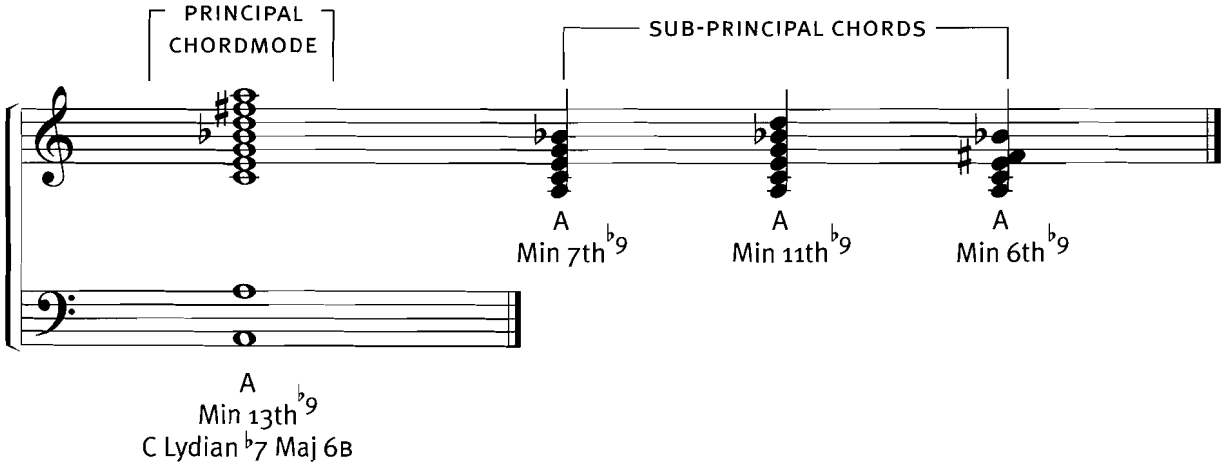
LYDIAN FLAT SEVENTH MODE VI Minor ♭9
—Principal Chord Family

Mode VI of the Lydian Flat Seventh Scale offers a more altered minor 13th ♭9 chord to the body of VI minor/altered minor chordmodes of the Lydian Chromatic Scale.

C LYDIAN ♭7TH MODE VI:	VI	♭VII	**I**	II	III	+IV	V
	A	B♭	**C**	D	E	F♯	G

CHORDS PRODUCED: C Lydian Flat Seventh Mode VI minor ♭9
Principal Chord Family

EXAMPLE III:20



The Lydian Flat Seventh Scale forms a unity with its minor 13th ♭9 Principal Chord Family existing on primary modal tonic VI of the Lydian Chromatic Scale.

Chords rooted on primary modal tonic degrees III, +IV, and V of the Lydian Flat Seventh Scale are listed under that scale's heading in the right column of Chart A.

Auxiliary Scales

Three scales, more obliquely related to the Lydian Scale in structure, are included in the body of Principal Scales of the LC Scale because of their unique harmonic polarity. Two of these scales, the Auxiliary Augmented and the Auxiliary Diminished, represent opposite tonal colors within the Western chordal spectrum.

The Auxiliary Augmented scale contains the flat seventh degree (♭VII) in its structure and therefore belongs to the 10-tone order of the Lydian Chromatic Scale along with the Lydian Flat Seventh Scale.

The Auxiliary Augmented Scale is also known as the "whole tone scale." The compositions of Debussy established this scale, with its vague inference of a central tonic tone, as a forerunner to twelve-tone music's all-out attack on tonically biased (protonic) music.

This scale is the source of the "pure" augmented scale color, due essentially to the absence of a pure I major or VI minor chord within its structure. However, it is freely available to be used as a tonal color with most chords produced by the LC Scale's eight Primary Modal Genres.

The Auxiliary Augmented Scale raises (augments) the chords introduced by the four scales of Lydian derivation. This makes it most closely associated to the Lydian Augmented Scale in sound and function.

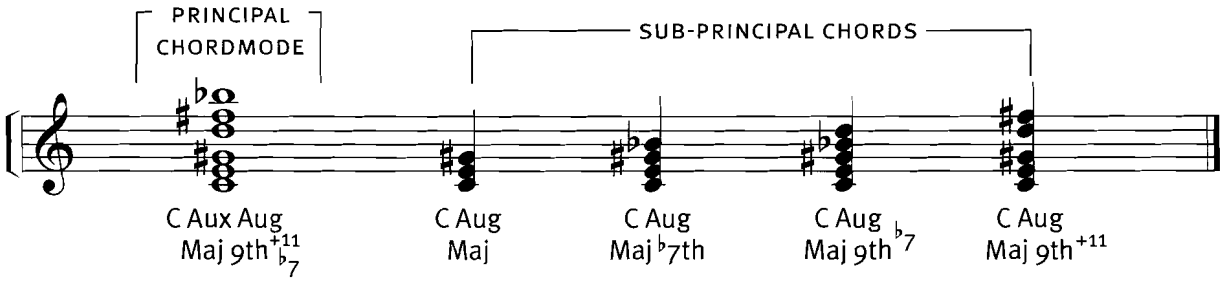
AUXILIARY AUGMENTED MODE I Aug Major
—Principal Chord Family

The Auxiliary Augmented Scale sounds a unity with its Mode I Aug Major 9th, ♯11th, ♭13th Principal Chord Family existing on the Lydian Tonic, C in this example.

C AUX AUG MODE I:	**I**	II	III	+IV	+V	♭VII
	C	D	E	F♯	G♯	B♭

CHORDS PRODUCED: C Auxiliary Augmented Mode I, aug major Principal Chord Family

EXAMPLE III:21



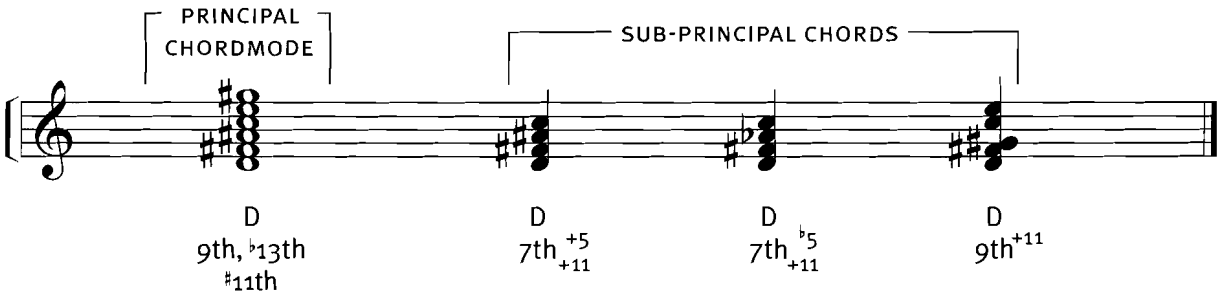
AUXILIARY AUGMENTED MODE II Aug Seventh
—Principal Chord Family

Here the Auxiliary Augmented Scale "augments" chords of the LC Scale's Mode II seventh/altered seventh Primary Modal Genre. The auxiliary augmented scale sounds a unity with its 9th, +5, +11 Principal Chord Family produced on Primary Modal Tonic degree II of the Lydian Chromatic Scale, D♮ in this example.

C AUX AUG MODE II:	II	III	+IV	+V	♭VII	**I**
	D	E	F♯	G♯	B♭	**C**

CHORDS PRODUCED: C Auxiliary Augmented Mode II, aug 7th Principal Chord Family

EXAMPLE III:22



Principal Chord Families on Primary Modal Tonics III, +IV, and +V of the Auxiliary Augmented Scale are listed under that scale's heading in the right column of Chart A.

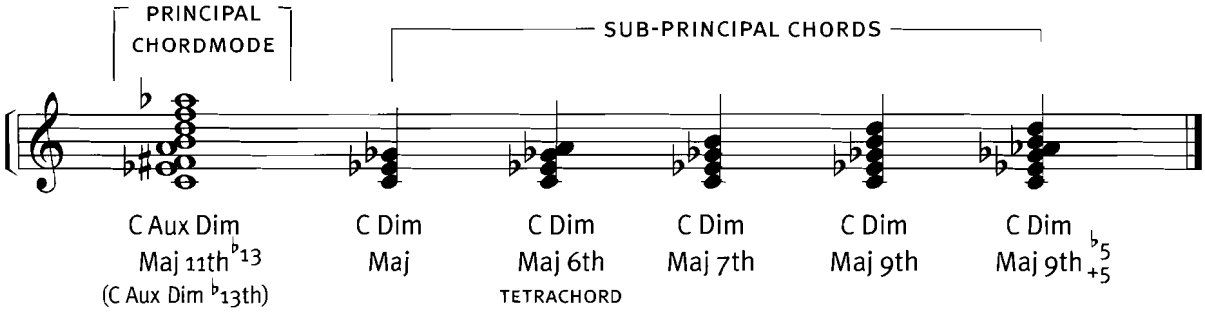
AUXILIARY DIMINISHED MODE I Dim Maj
—Principal Chord Family

The Auxiliary Diminished Scale sounds a unity with its Mode I diminished major 11th, ♭13 Principal Chord Family situated on the Lydian Tonic of its parent Lydian Chromatic Scale.

C AUX DIM MODE I:	**I**	II	♭III	IV	+IV	+V	VI	VII
	C	D	E♭	F	F♯	G♯	A	B

CHORDS PRODUCED: C Auxiliary Diminished Mode I, dim major Principal Chord Family

EXAMPLE III:23



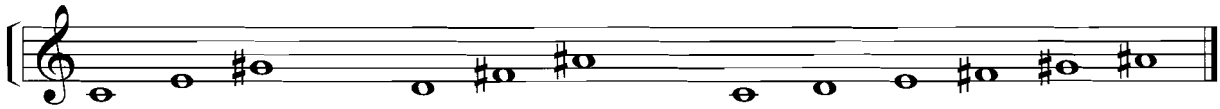
As the Auxiliary Augmented Scale[1] has a homogeneous relationship with the "pure" augmented tonal color of a LC Scale, so in the same homogeneous manner does the Auxiliary Diminished Scale represent the LC Scale's pure diminished tonal color. Neither scale is capable of providing an unaltered I major or VI minor triad. The Auxiliary Augmented Scale does not have a VI minor mode. Nevertheless, both scales can be used in their own way to color virtually any Principal Chord of their parent Lydian Chromatic Scale.

1. Tests A and B in Chapter IV allow you to experience the sound of auxiliary augmented scale melodies sounding with chords from the various chord families (Primary Modal Genre) of a Lydian Chromatic Scale.

Both the auxiliary augmented and auxiliary diminished scales share the structural feature of being derived from a combination of their Lydian Tonic major chord with an identical chord structure a major second interval above:

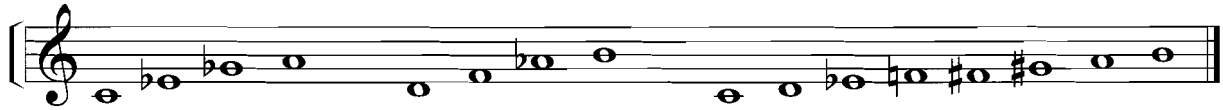
EXAMPLE III:24

C AUXILIARY AUGMENTED SCALE



Augmented major triad + augmented major triad = C auxiliary augmented (whole tone) scale

C AUXILIARY DIMINISHED SCALE



Diminished major sixth + diminished major sixth = C auxiliary diminished scale

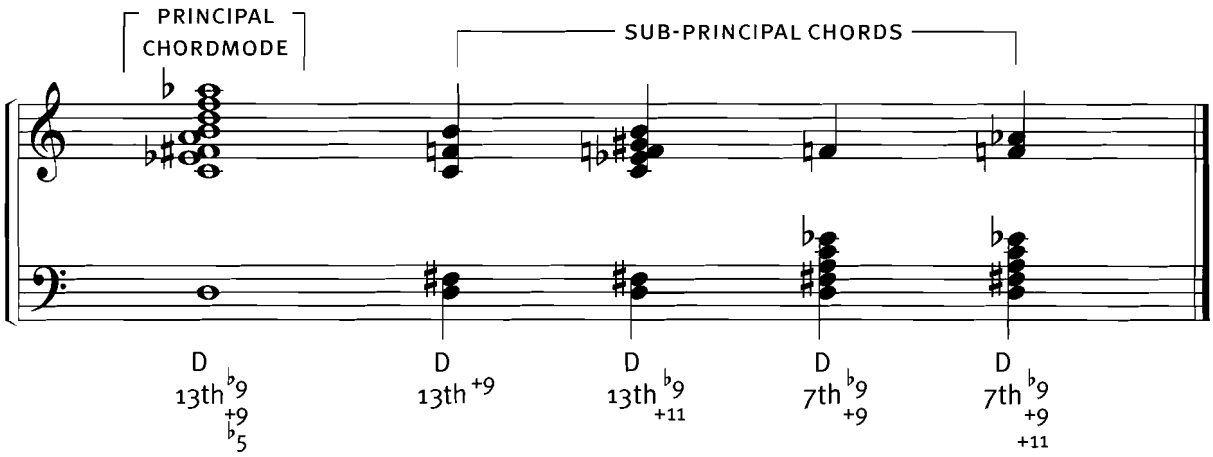
The Auxiliary Diminished Scale introduces the fourth degree (IV) in its whole step/half step structure. As a HYBRID SCALE, containing *both* the fourth degree (definitive *horizontal* tone) and raised fourth degree (+IV, definitive *vertical* tone) of the Lydian Chromatic Scale, this scale lends itself ideally to either vertical or horizontal situations. The presence of the sharp fourth neutralizes the horizontal power of Western harmony's "natural" fourth degree allowing it to blend into the verticality of a chord.

AUXILIARY DIMINISHED MODE II 7th/Altered 7th —Principal Chord Family

The Auxiliary Diminished Scale sounds a unity with its Mode II Thirteenth (altered) Principal Chord Family rooted on Primary Modal Tonic II, D♮ in the following example:

C AUX DIM MODE II:	II	♭III	IV	+IV	+V	VI	VII	**I**
	D	E♭	F	F♯	G♯	A	B	**C**
CHORDS PRODUCED:	C Auxiliary Diminished Mode II, 7th ♭9, +9 ♭5 Principal Chord Family							

EXAMPLE III:25



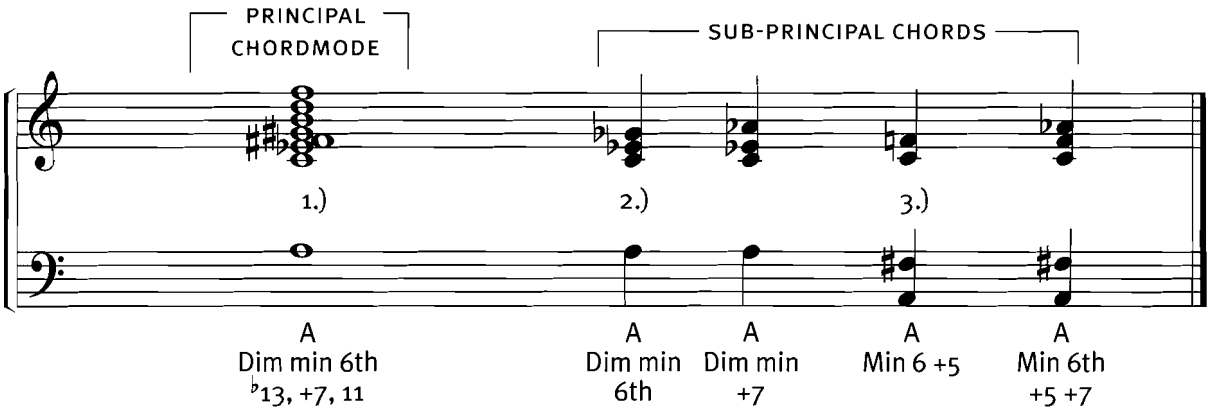
AUX. DIMINISHED MODE VI Dim Min 6th, ♭13

—Principal Chord Family

C AUX DIM MODE VI:	VI	VII	**I**	II	♭III	IV	+IV	+V
	A	B	**C**	D	E♭	F	F♯	G♯

CHORDS PRODUCED: C Auxiliary Diminished Mode VI, dim min sixth ♭13 (dim min +5) Principal Chord Family

EXAMPLE III:26



Principal Chord Families rooted on Primary Modal Tonics +V, +IV, and VII of the Auxiliary Diminished Scale are listed under that scale's heading in the corresponding column in Chart A.

AUX. DIMINISHED BLUES MODE I Altered Maj
—Principal Chord Family

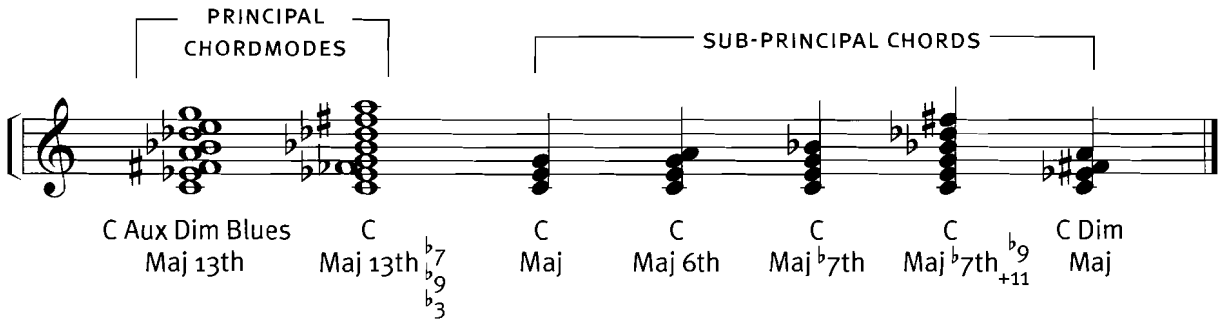
The Auxiliary Diminished Blues Scale introduces the flat second degree, the most outgoing tone of the Lydian Chromatic Scale. Its structure is an exact inversion of the whole-step/half-step (Aux Dim scale structures) existing on its ♭IInd, IIIrd, Vth, and ♭VII degrees. The Auxiliary Diminished Blues Scale, with its half-step/whole-step arrangement, is the most outgoing of the seven chord producing Principal Scales of the Lydian Chromatic Scale. However, its ability to produce I major and VI minor chords ties it to the group of five Lydian Scale structures and therefore makes it a versatile and interesting scale.

The Auxiliary Diminished Blues Scale sounds a unity with its auxiliary diminished blues major and major 13th, ♭7/♭9/♭3 Principal Chord Families based on Primary Modal Tonic degree I, C♮ in this example:

C AUX DIM BLUES MODE I:	**I**	♭II	♭III	III	+IV	V	VI	♭VII
	C	D♭	E♭	E	F♯	G	A	B♭

CHORDS PRODUCED: C Auxiliary Dim Blues Mode I, altered major Principal Chord Family

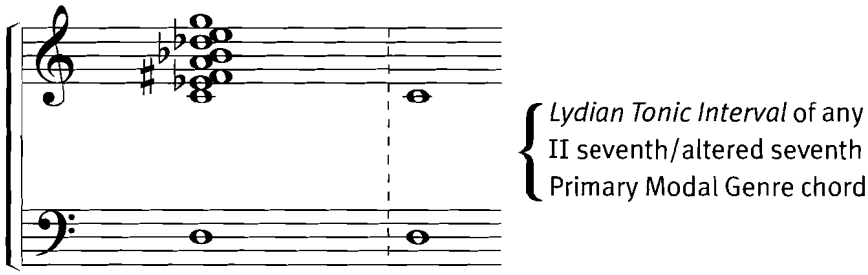
EXAMPLE III:27



Principal Chord Families rooted on Primary Modal Tonics III, +IV, and V of the Auxiliary Diminished Blues Scale are listed in the corresponding column of Chart A.

The Auxiliary Diminished Blues Scale, lacking the IInd degree of a LC Scale in its structure, cannot independently produce a II Seventh/Altered Seventh Chordmode. Nevertheless, when imposed on PMT II of its Parent LC Scale, it does produce the outermost Twelve-Tone Order Principal Chord Family of that LC Scale's II Seventh/Altered Seventh PMG.

EXAMPLE III:28



C Aux Dim Blues Maj
D (Mode II)

This raises an important point—that whenever a musician is playing any principal or Sub-Principal Chord of any of the eight Primary Modal Genres, the initial and most important connection is found in the Lydian Tonic interval. This is the distance from the chord's root/modal tonic up to the parent Lydian Tonic. The Lydian Tonic interval connects you immediately with the chord's Lydian Tonic, the fundamental center of tonal organization for any and all chordmodes.

For example, the fundamental interval in relating to chordmodes of the II seventh Primary Modal Genre is that interval of a minor seventh connecting the chord's primary modal tonic with its Lydian Tonic. Any principal or member scale of the parent Lydian Chromatic Scale may be used to impose its particular sound along with that seventh chord, as is the case with a C Auxiliary Diminished Blues Scale sounding over Primary Modal Tonic degree II in the above example.

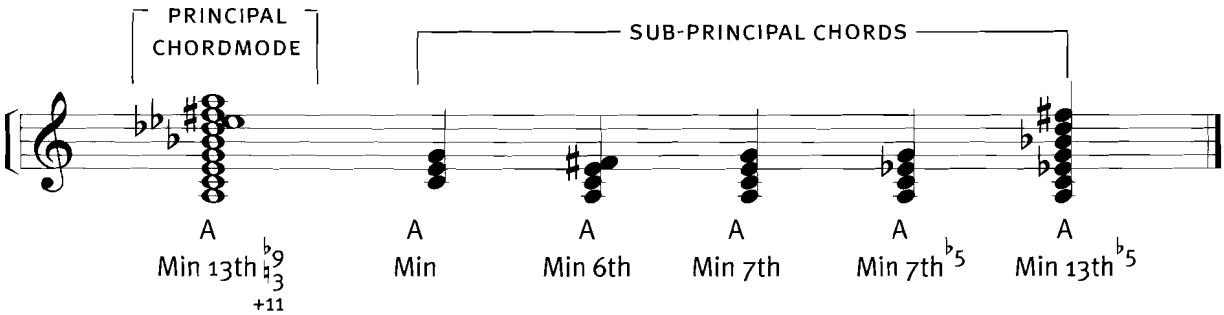
AUXILIARY DIM. BLUES MODE VI Altered Minor
—Principal Chord Family

The Auxiliary Diminished Blues Scale sounds a unity with its Mode VI minor thirteenth ♭9, ♮3, +11 Principal Chord Family created on its sixth degree modal tonic, A♮ in the following example.

C AUX DIM BLUES MODE VI:	VI	♭VII	**I**	♭II	♭III	III	+IV	V
	A	B♭	**C**	D♭	E♭	E	F♯	G

CHORDS PRODUCED: C Auxiliary Dim Blues Mode VI, altered minor Principal Chord Family

EXAMPLE III:29



Summation of Chapter III

Chapter III shows how the seven modes of the Lydian Scale and the augmented fifth mode of the Lydian Augmented Scale each create a PRIMARY PRINCIPAL CHORD on their respective modal tonics. The Principal Chord is the most harmonically evolved chord a mode can produce on its modal tonic, and the term "Primary" refers here to an aspect of the LC Concept as being first and most ingoing in order of development and consequently causing or influencing later development.

In other words, the establishment of a Lydian Chromatic Scale's eight PRIMARY PRINCIPAL CHORDS (by the seven modes of the Lydian Scale and mode +V of the Lydian Augmented Scale) allow for the other Principal Scales of the same LC Scale to introduce—on these modal tonics—more altered versions of each Primary Principal Chord type.

In this way, the seven modal tonics of the Lydian Scale and modal tonic +V of the Lydian Augmented Scale become *Primary* Modal Tonics (PMT's) or cornerstones on which the *Primary* Modal Genres (PMG) or "chord mansions" of a LC Scale exist. The LC Scale's eight PMG house all of tonal

music's traditionally defined chords. (Many non-traditional harmonic colors are housed within the LC Scale's eight PMG as well.) Each PMG contains not only all the important chords of its general type, but also indicates the natural parent Lydian Chromatic Scale tonal environment for the chord, and within that, the natural parent scale from which the chord arises initially.

It is therefore of strategic importance, when trying to locate the Parent LC Scale for a chord, to first associate the chord with its proper Primary Modal Genre on Chart A.

Chapter III identifies the eight PMG of the Lydian Chromatic Scale as follows:

EXAMPLE III:30

PRIMARY MODAL TONIC	PRIMARY MODAL GENRE
I	major and altered major chords
II	seventh and altered seventh chords
III	[I] major and altered [I] major 3B (minor +5) chords
+IV	minor seventh ♭5 / [I] major +4B chords
V	[I] major and altered [I] 5B major chords
VI	minor and altered minor chords
VII	eleventh ♭9 / [I] major 7B chords
+V	seventh +5 chords

Chart A encapsulates the information presented in the text thus far. As the chief facilitator in connecting chords with their parent LC Scale, Chart A first directs the musician to a given chord's Primary Modal Genre; that is, it points you to the chord's proper chord mansion (its natural and most ingoing tonal habitat) within the parent LC Scale wherein lies its primary parent scale. The primary parent scale is the chord's birth chamber, its place of arising as well as that of its immediate chord family. The chord and its primary parent scale exist in the state of absolute chord/scale unity—they exist as a chordmode.

However, a Primary Modal Genre cultivates a number of diverse chord families of its own essential harmonic genre. These chord families exist side by side within the Primary Modal Genre mansion while retaining their own indigenous shade of that PMG's basic harmonic type. Sounding each of the Seven Principal Scale's of a Primary Modal Genre's Parent LC Scale upon its

PMT degree is responsible for the creation of its chord population. Once a chord's primary parent scale is established, the musician can relate to it for melody and/or harmony to sound with that chord (the prevailing chord, or chord of the moment) or is free to use any of the remaining Principal Scale colors within that PMG to sound with the chord. The Seven Principal Scales represent the most ingoing tonal melodic and harmonic resources of the Lydian Chromatic Scale. Beyond this, the Lydian Chromatic Concept offers gradually more outgoing tonal resources extending to the most radical type.

The broad range of freedom within the Lydian Chromatic Concept and its Lydian Chromatic Scale is a direct result of their genesis and development being founded on a single and powerful objective idea—the principle of tonal gravity.

The Principle of Tonal Gravity

The one phenomenon that can be categorized as a higher law of the Lydian Chromatic Concept of Tonal Organization is tonal gravity. Tonal gravity transcends the subjective rules of "good" and "bad" propelled by traditional Western theory. Gravity, as a function of physics, manifests itself in music as in all else of nature.

The relationship of the twelve tones of the chromatic scale to a fundamental tone (center of tonal gravity or Lydian Tonic) ranges from close to distant (also referred to as ingoing and outgoing respectively) not from good to bad. As an objective-oriented principle, tonal gravity, in this manner, frees music from the subjective notions of right and wrong tones—clearing the path for the reunification of music with physics. In fact, music may well be a higher language of the science of physics, revealing the why of things, as well as the how and having the capacity to influence the physical, emotional, and intellectual states as well as the spiritual.

The higher the law, the fewer number of smaller subjective laws; hence the greater degree of freedom. Freedom is not the absence of law, but rather the prevalence of a higher objective law superseding the existence of a plethora of lower, more subjective ones. The Lydian Chromatic Concept of Tonal Organization is under the Law of Tonal Gravity, which provides the maximum freedom afforded within the scope of equal temperament. There is no conflicting labyrinth of small laws to circumvent, only the all-inclusive

law of tonal gravity—the tonal gravity field of the Lydian Chromatic Scale and the modes of behavior influencing its elements.

The Lydian Chromatic Scale and the Lydian Chromatic Concept are based fundamentally upon the law of tonal gravity which exists within a ladder of intervals of fifths. The interval of a fifth yields tonical authority to its lower tone. Likewise, a ladder of fifths confers ultimate tonical authority upon its lowermost tone. The result is the creation of a TONAL GRAVITY FIELD.[1] The higher force of gravity is passed down a ladder of fifths to confer upon its lowermost tone the status of an ultimately final *do*, the tone possessing maximum tonical authority within a series of tones.

The Pythagorean ladder of twelve intervals of a fifth is the prototype for the tonal gravity field of a Lydian Chromatic Scale. However, in order to accommodate the evolution of the five main Western chord types (major, minor, seventh, augmented and diminished), the Lydian Chromatic Scale skips the seventh fifth (i.e., the interval of a fifth from B to F♯ in the key of F Lydian). As a result of this transition from the uninterrupted ladder of successive fifths, the Lydian Chromatic Scale is also referred to as the WESTERN ORDER OF TONAL GRAVITY.

It should be mentioned again that certain Sub-Principal Chords of the auxiliary scales listed in the preceding examples are also Sub-Principal Chords of more ingoing Lydian-based Principal Scales as well. Nevertheless, these Sub-Principal Chords are produced in, and therefore sound a degree of chord/scale unity with, their respective parent "auxiliary" scale. The subject of SECONDARY PARENT Lydian Chromatic Scale choices is implied here and will be taken up in greater depth in the next chapter.

1. See Example 1:2.

PART TWO

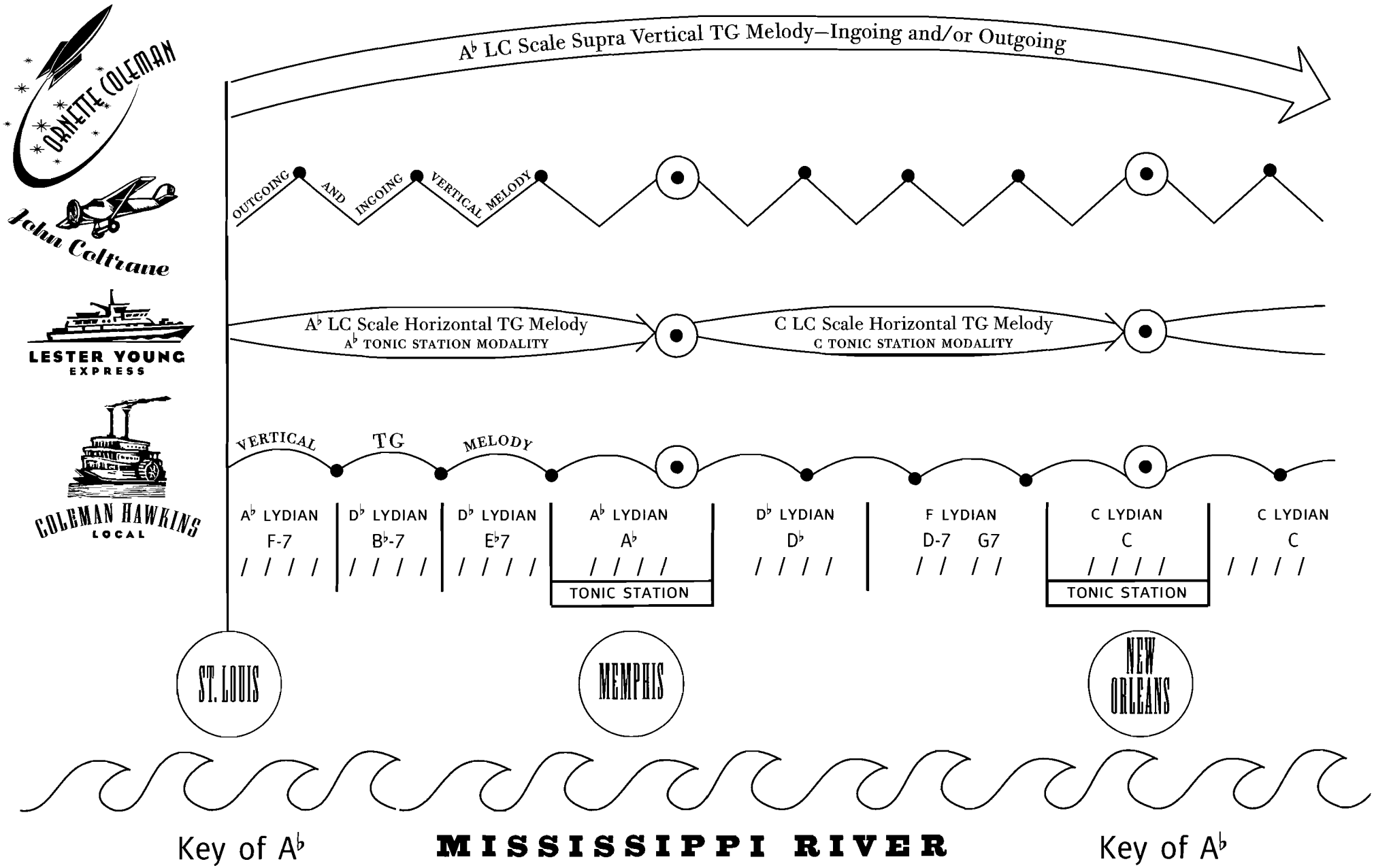
Vertical Tonal Gravity

Contracting our infinite sense
We behold multitude
Or expanding we behold
As one.

—William Blake

THE RIVER TRIP

Example of the Three Coexistent Levels of Tonal Gravity



Key of A♭ **MISSISSIPPI RIVER** Key of A♭

CHAPTER IV

The Level of Vertical Tonal Gravity

Introduction:
The "River Trip" analogy of Vertical Tonal Gravity

A song can be compared metaphorically to a river. The "River Trip" chart on the opposite page illustrates three ways the musician might relate melodically in navigating the chord-stream of a song. The musician navigating the river on the LEVEL OF VERTICAL TONAL GRAVITY is like the captain of a local steamship that makes stops at each "chord town." This vertically-minded captain (Coleman Hawkins, for example) derives a melody from the parent scale or any other member scales of the parent Lydian Chromatic Scale dictated by each chord town. The level of Vertical Tonal Gravity (VTG) requires the musician to project the harmonic identity of virtually each chord town with a melody that sounds that chord's harmonic genre as it occurs within the harmonic stream of the music. This is the chief mission of the musician on level of VTG: to create a melody that falls[1] essentially on each chord within a progression of chords.

The vertical melodic approach is one of three ways to which early jazz musicians intuitively tended to gravitate when negotiating a chord stream. The other two ways of relating melodically to a harmonic progression—the HORIZONTAL and the SUPRA-VERTICAL approaches—will be discussed in later lessons.

The vertical approach was considered a more sophisticated style of playing because it required a knowledge of chords. Musicians of the Coleman Hawkins (vertical) school of improvisation were, first of all, familiar with traditional chord nomenclature, which indicates the root followed by the harmonic type:

EXAMPLE IV:1

1. Descends by the force of Vertical Tonal Gravity.

The ROOT (modal tonic) of all of these four chords is C. However, their harmonic genre sound distinctly different. Chapter III explained the various chord families (Primary Modal Genre) of the LC Scale. And as we know, a chord is actually a mode (a chordmode) of its parent scale.

These musicians created their vertical melodies by taking what they could from traditional music theory. For the most part, this amounted to knowledge of a chord's intervalic structure, essentially built in thirds and based on the root of the chord.

The "vertical" jazz musician discovered by experimentation that tones other than those within the structure of a chord could be used to imply more extended or altered versions of a chord. Improvisers would sometimes choose to touch on these extended or altered tones, sounding the broader implication of not simply a chord, but rather the larger chord category to which a chord belongs. For example, an improviser may melodize a C^7 chord by adding the tones $D^\flat$ and $G^\flat$ to the basic intervalic structure. In so doing, he would be expressing the $C^{7\,\flat 9\,\flat 5}$ chord, a particular color within the same seventh chord category, Primary Modal Genre (PMG) II seventh/altered seventh of the $B^\flat$ Lydian Chromatic Scale.

The vertical improviser had not yet come to the realization of the principle of chord/parent scale unity, but the manner in which they acknowledged nearly every chord with a melody expressing the chord's harmonic genre suggests an intuitive sense of the fundamental condition of Vertical Tonal Gravity, that is, of relating a melody to each chord in the chordstream as an autonomous vertical entity.

This basic condition of Vertical Tonal Gravity was most forcefully evidenced in the playing of Coleman Hawkins, Dick Wilson (tenor soloist with the Andy Kirk Orchestra), Ben Webster, Herschel Evans, and certainly the greatest of all jazz piano geniuses, Art Tatum, whose brilliant execution of sophisticated harmonies and melodies will always sound ahead of its time. The vertical approach to navigating the chord river was, for the most part, identified geographically with the Northeast and central metropolitan areas of the United States.

Chapter III presented in detail the way in which chords are derived from their parent scales. The Lydian Chromatic Concept considers the underlying principle of harmony to be *unity*. The Lydian Scale, as the archetype of a unified tonal gravity field, certainly substantiates this claim. Along with

the other six Principal Scales, the Lydian Scale offers the vertically-conscious musician a disciplined yet free way to realize, through composition and/or improvisation, the FUNDAMENTAL PRINCIPLE OF CHORD/SCALE UNITY.

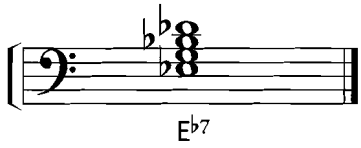
Relating Melody to the Parent Scale Designated by a Chord

As the River Trip analogy illustrates, the jazz musician is frequently required to improvise with written chord symbols. This chapter deals with converting a chord symbol into the scale which most purely conveys the sound (harmonic genre) of the chord. This scale is termed the PARENT SCALE of the chord. Conversion of a chord into its parent scale occurs on the Level of Vertical Tonal Gravity (VTG). In vertical tonal gravity, the melody is dictated by the chord. (While the focus of this chapter is on the chord-dictated melodies of VTG, subsequent chapters will elaborate on the broader reference points producing melodies beyond those determined solely by the chord/parent scale relating process of Vertical Tonal Gravity.)

How are chords converted into their parent scales?

Examine the $E^{\flat 7}$ chord for example:

EXAMPLE IV:2



Over the roman numerals of the scales of Chart A are listed different chord families. For example, over roman numeral II of the Lydian Scale are listed 7th, 9th, 11th, and 13th chords. They belong to the same family: the (II) seventh chord family of a Lydian Chromatic Scale.

The $E^{\flat 7}$ chord is found in this family above roman numeral II of the Lydian Scale in the right column of Chart A. The Lydian Scale is therefore the parent scale of the $E^{\flat 7}$ chord.

Place the root of the $E^{\flat 7}$ on roman numeral II, and $E^{\flat}$ becomes the second degree of that chord's parent scale.

Think down a major 2nd interval; if $E^{\flat}$ is the second degree of the parent scale, $D^{\flat}$ is the first degree. Therefore $D^{\flat}$ is the tonic (root) of the $E^{\flat 7}$ chord's

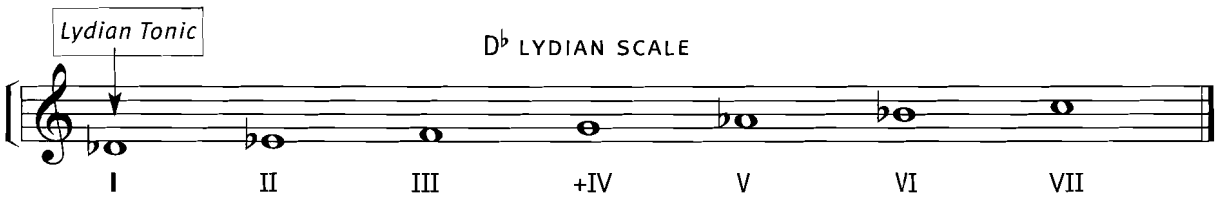
parent scale. This tonic is called the Lydian Tonic. For the E♭7 chord, D♭ is the Lydian Tonic and the parent scale is D♭ Lydian.

Being able to immediately locate the parent Lydian Tonic for a chord is critical on the Level of Vertical Tonal Gravity, for this is where the chord's primary organization originates. In this instance, one could also think of the Lydian Tonic as existing on the flat (or minor) seventh degree of the E♭7 chord. This interval from the modal tonic root of the chord (E♭) up to the Lydian Tonic (D♭) is termed the LYDIAN TONIC INTERVAL. Whether one calculates down a major 2nd or up a minor 7th, the result is the same. In locating the Lydian Tonic of a chord, always initially identify the chord with its proper Primary Modal Genre on Chart A. The instruction beneath each Primary Modal Genre on the left side of the chart yields the degree of the chord on which rests its parent Lydian Tonic. The interval between a chord's PMT degree and its Lydian Tonic (the Lydian Tonic interval) is the same for all chords and chord families of a Primary Modal Genre. Committing to memory the Lydian Tonic interval of each one of the eight PMG of the LC Scale is a very practical aid in identifying a chord with its Parent [LC] Scale.

In the Lydian Chromatic Concept, the root tone of a chord is termed its MODAL TONIC ROOT. Keep in mind it is a chord's parent Lydian Tonic on which rests the tonal organization that represents the ultimate universe of the chord. The chord is born into this universe and evolves in its most natural tonal environment. This cosmos of the chord is referred to as the PARENT LC SCALE of the chord on the level of Vertical Tonal Gravity. *The modal tonic of a chord functions only in defining the chord's harmonic genre within the context of its parent Lydian Chromatic Scale.*

Once D♭ is determined to be the Lydian Tonic of the E♭7 chord, the next step is to fill in the rest of the tones (roman numerals) indicated by the scale:

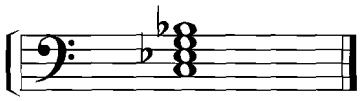
EXAMPLE IV:3



The parent scale of the E♭7 chord, D♭ Lydian, is the scale which best conveys the sound of this chord. Try playing the D♭ Lydian Scale over the modal tonic root of the E♭7 chord (E♭) to hear this complete 7th chord family.

Now let's use Chart A to find the parent scale of another chord:

EXAMPLE IV:4

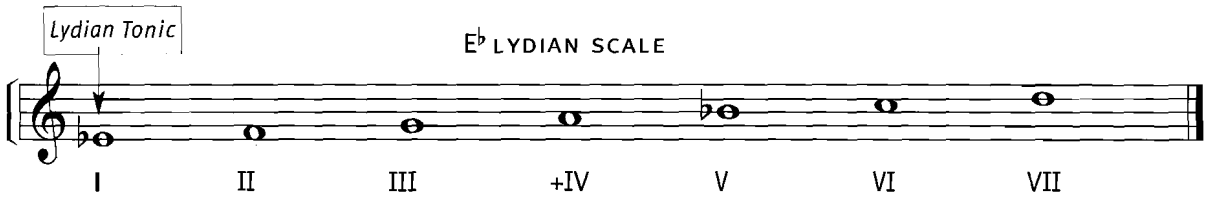


C min^7

This chord is found in the minor chord family above roman numeral VI of the Lydian Scale. Put the root of the C min^7 chord on roman numeral VI, and C now becomes the sixth degree of its parent scale. Thinking down a major 6th interval, if C is the sixth degree of the parent scale, then E$^\flat$ is the Lydian Tonic. E$^\flat$ is the Lydian Tonic of the E$^\flat$ Lydian Scale, the parent scale of a C min^7 chord. In other words, C min^7 as a complete minor chord genre is created by sounding the E$^\flat$ Lydian Scale over its sixth degree modal tonic: the note C.

Now fill in the rest of the tones (roman numerals) to complete the scale:

EXAMPLE IV:5

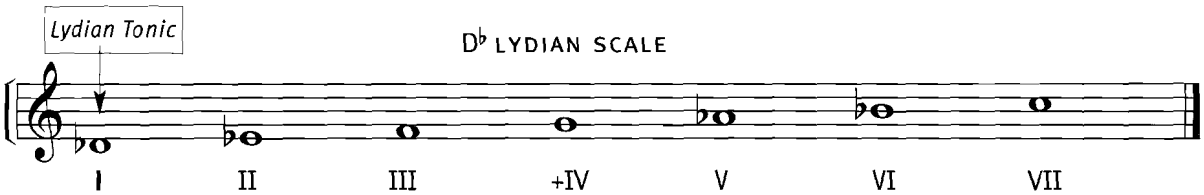


Let's say the musician encounters a G min$^{7\,\flat5}$ chord.

The minor 7th$^{\flat5}$ chord is found above roman numeral +IV of the Lydian Scale. This means that the modal tonic (root) of the chord (G) is located on the augmented fourth degree of its parent Lydian Scale.

An augmented fourth interval down from G finds D$^\flat$ as the Lydian Tonic of a G min$^{7\,\flat5}$ chord. Place D$^\flat$ on roman numeral I, and build the scale dictated by the remaining roman numerals:

EXAMPLE IV:6

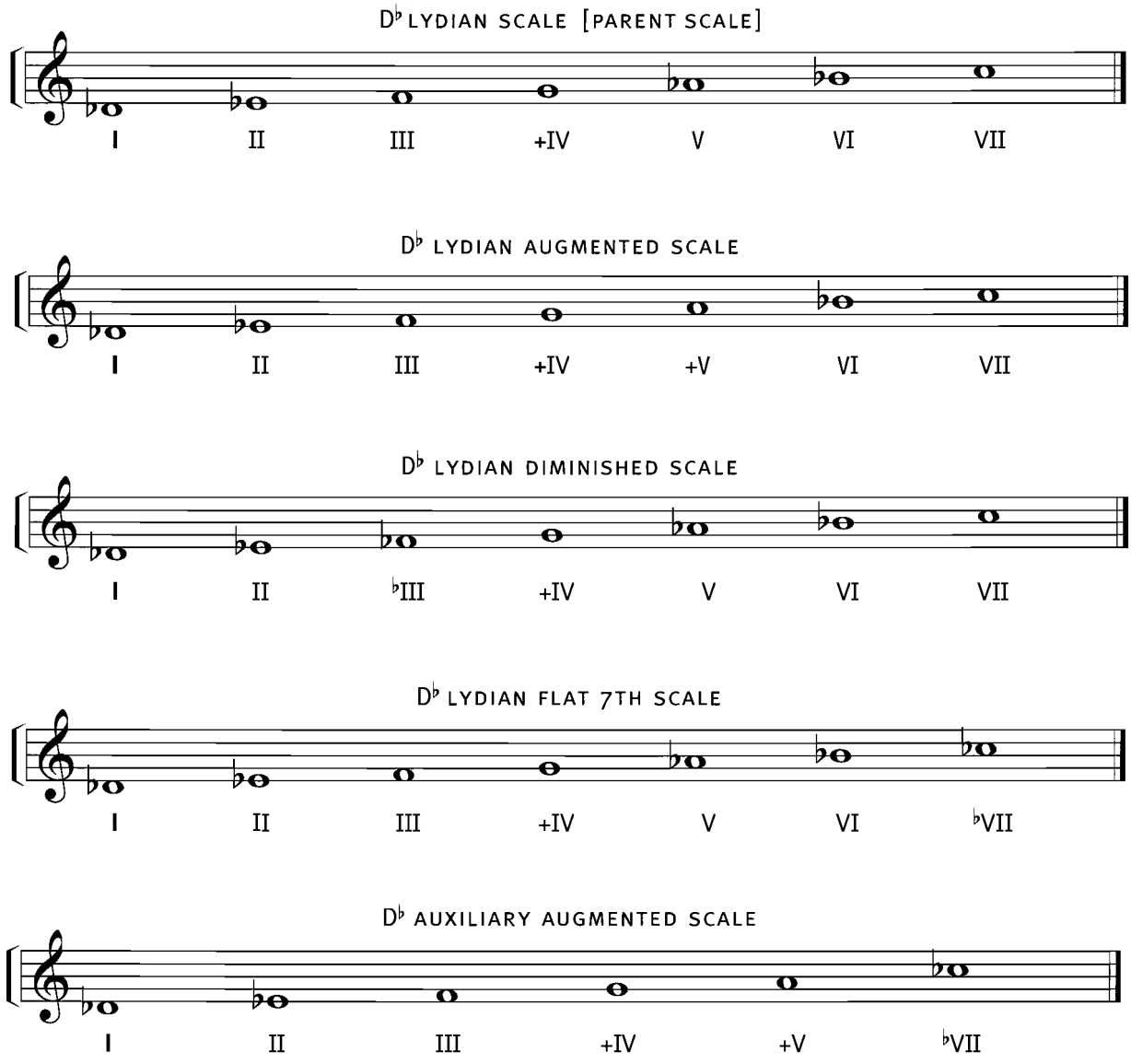


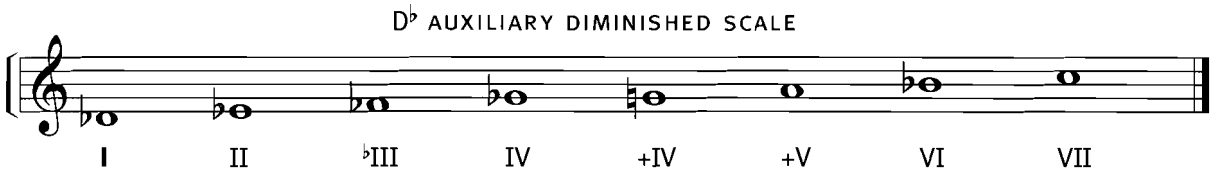
This scale, the D$^\flat$ Lydian, is the parent scale of the G min$^{7\,\flat5}$ chord—the scale that most completely conveys the unaltered sound of this chord.

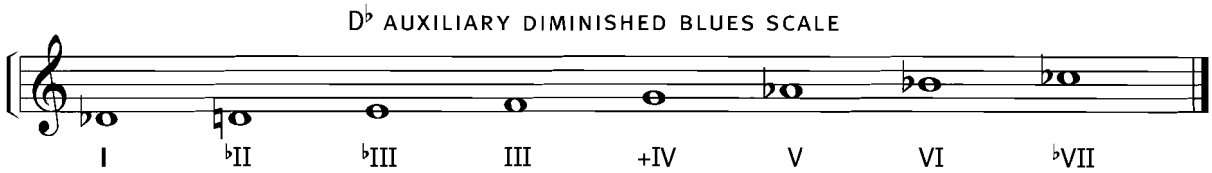
The parent scale, however, is just one of the scales which may be constructed on the Lydian Tonic. The parent scale may be thought of as the PRIME COLOR and the other six scales on Chart A as representing colors related to the prime color.

For example, the parent scale (prime color) of the $E^{\flat 7}$ chord is $D^{\flat}$ Lydian. However, the other six related scales on Chart A may be used to add color to the $E^{\flat 7}$ chord at the discretion of the improviser. Here are the scales listed on the right side of Chart A based on the $D^{\flat}$ Lydian Tonic:

EXAMPLE IV:7







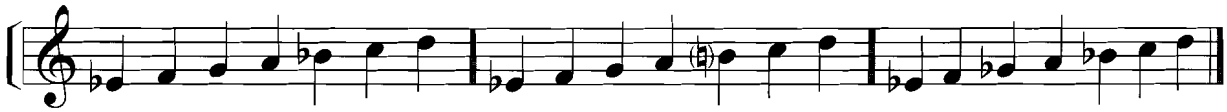
Melodies derived from any of these seven scales sound varying degrees of unity with the E♭7 chord. Except for the D♭ Aux Dim Blues Scale, the Lydian Tonic interval (E♭ to D♭) is the constant reference in determining the prime parent and related scale colors of the E♭7 chord's parent Lydian Chromatic Scale. Lacking a major 2nd degree, the Aux Dim Blues Scale is still applicable to the E♭ 7th chord as the Principal Scale color representing the most outgoing tonal level of that chord's Parent LC Scale, the D♭ LC Scale.

Test A

Identify the parent scale and other two Principal Scales based on the parent Lydian Tonic of each chord. The scales for the first chord (F^7) have been completed for you. Write the tones of the scales listed for the other ten chords in the same fashion by filling in the blank staves. Experiment in creating vertical melodies using these scales along with the basic unaltered chordmode—or simply play the scales superimposed over the root (modal tonic degree) of the chord.

F^7 Parent Lydian Tonic is E♭

PARENT SCALE | PRINCIPAL SCALE | PRINCIPAL SCALE

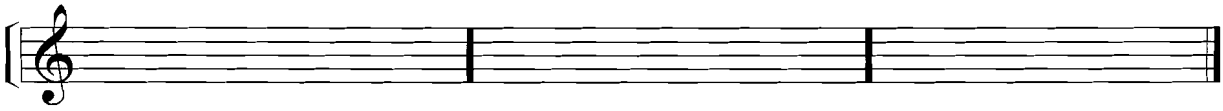


E♭ Lydian | E♭ Lydian Augmented | E♭ Lydian Diminished

D^7 Parent Lydian Tonic is _____

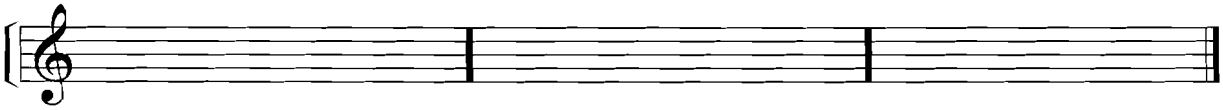
Lydian | Auxiliary Diminished | Auxiliary Augmented

D min^7 Parent Lydian Tonic is _____



Lydian | Lydian Augmented | Auxiliary Diminished

A maj^7 Parent Lydian Tonic is _____

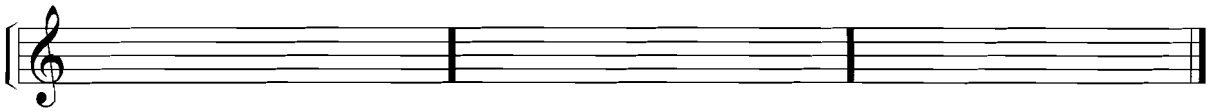


Lydian | Lydian Augmented | Lydian Diminished

B♭^{6} Parent Lydian Tonic is _____

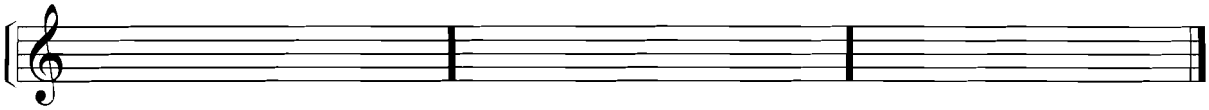
Lydian | Lydian Flat Seventh | Aux. Diminished Blues

A^{13} Parent Lydian Tonic is _____



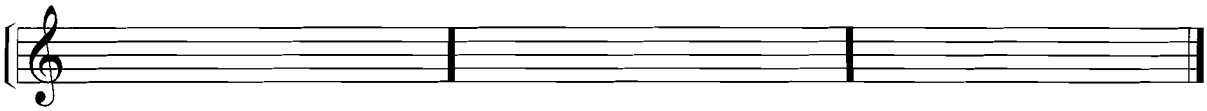
Lydian | Lydian Augmented | Auxiliary Diminished

$G\ min^{6}$ Parent Lydian Tonic is _____



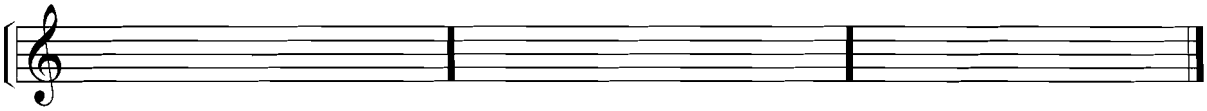
Lydian | Lydian Flat Seventh | Auxiliary Augmented

$C\ min^{7\flat5}$ Parent Lydian Tonic is _____



Lydian | Lydian Augmented | Lydian Flat Seventh

$B^{7\flat9}$ Parent Lydian Tonic is _____

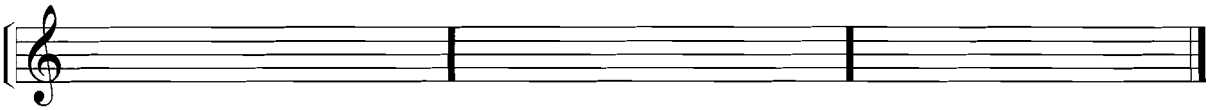


Lydian Diminished | Auxiliary Augmented | Auxiliary Diminished

$E^{\flat}\ min^{7\flat5}$ Parent Lydian Tonic is _____

Lydian | Lydian Flat Seventh | Aux. Diminished Blues

E^{7+5} Parent Lydian Tonic is _____



Lydian Augmented | Auxiliary Augmented | Aux. Diminished Blues

Test B

The following examples feature an INGOING VERTICAL MELODY on the level of Vertical Tonal Gravity. They show how a parent or associate principal scale of the parent LC Scale dictated by each chord is used to derive a melody that colors the chord with the tonal quality of that scale. The examples are based upon an identical eight-bar chord progression for the purpose of demonstrating the tonal quality of each of the Seven Principal Scales of the LC Scale.

- Each pair of variations features each of the seven types of principal scales. Variation 1a has been completed for you. Continue by following this format and filling in the area above each bar in the remaining thirteen variation examples.
- In the parenthesis to the right of the chord, fill in the roman numeral indicating the position occupied by the chord's root (primary modal tonic degree) within its parent [LC] scale, as indicated by Chart A.
- Identify the exact parent Lydian Tonic and principal scale from which the vertical melody for a chord is being derived, and write it in the bracketed box above the chord and PMT. Each pair of variations indicates the type of principal scale used.

Beside familiarizing the student with the process of chord/parent scale association, this test is also designed to convey the ingoing to outgoing (close to distant) tonal color quality of the melodies derived from the seven principal scales as they proceed from ingoing (the Lydian Scale) to more outgoing (the auxiliary diminished blues scale) within these examples.

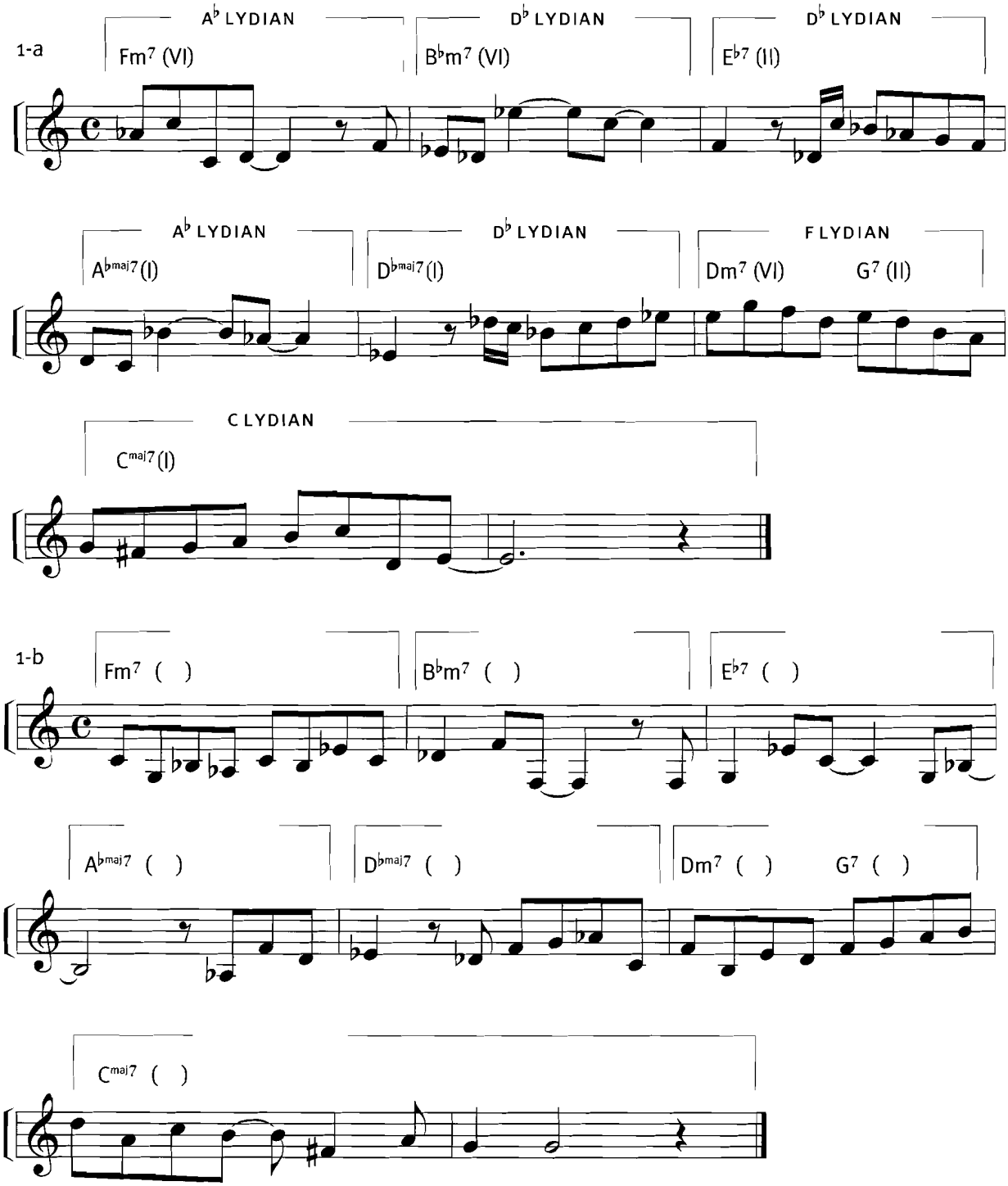
Before undertaking Test B, take a moment to study the abbreviations for the Lydian Chromatic Scale and its Seven Principal Scales. Each of these abbreviations is to be preceded by the capital letter representing the Lydian Tonic of the prevailing parent Lydian Chromatic Scale. The parent Lydian Tonic's capital letter and Primary Modal Tonic's roman numeral of a chord adequately identifies its parent [LC] Scale and harmonic genre. For example, a "B♭ [VI]" symbolizes a B♭ parent Lydian Tonic, B♭ parent Lydian [LC] Scale, and Primary Modal Tonic mode degree VI. This produces a G minor chord.

STANDARD ABBREVIATIONS FOR PRINCIPAL SCALES

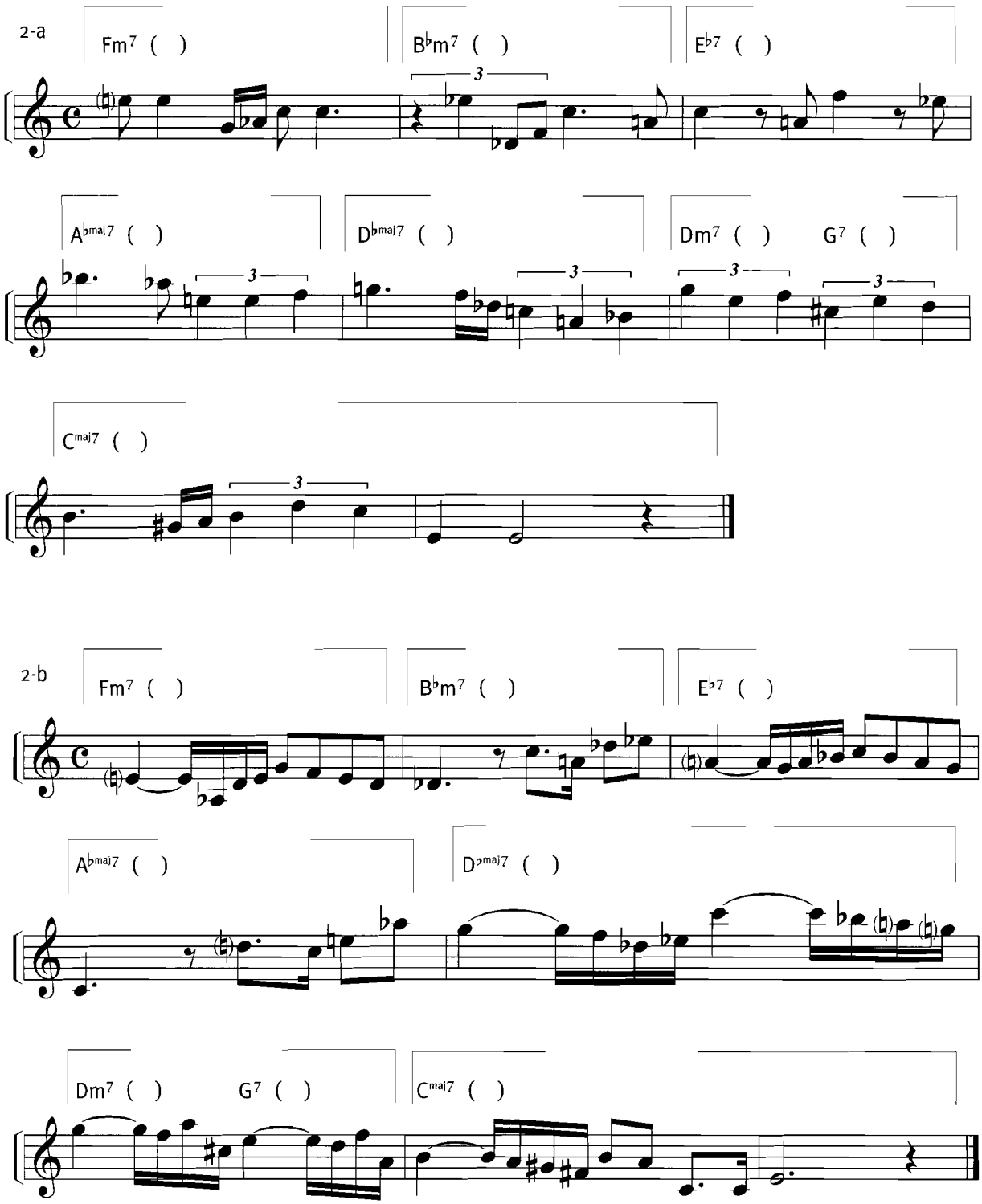
Lydian:	Lyd (L or Ly)
Lydian Augmented:	LA (Lyd aug)
Lydian Diminished:	LD (Lyd dim)
Lydian Flat 7th:	Lyd $^{\flat 7}$ (L$^{\flat 7}$)
Auxiliary augmented:	AA (aux aug)
Auxiliary diminished:	AD (aux dim)
Auxiliary diminished blues:	ADB (aux DB)
Lydian Chromatic:	LC or [LC]

Vertical melodies derived from the seven principal scales of the Lydian Chromatic scale

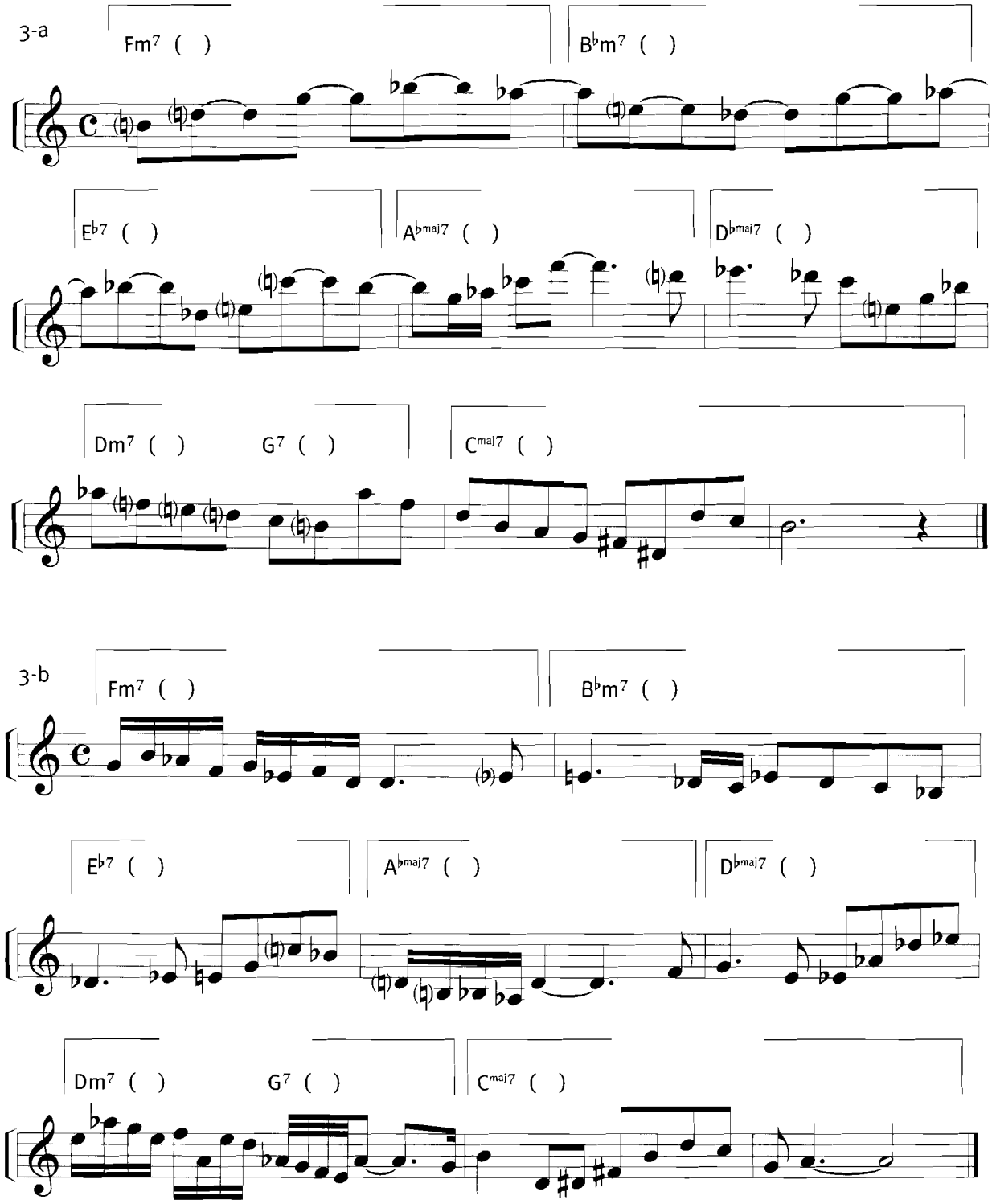
I. Variations 1a and 1b: vertical melodies using the Lydian Scale.



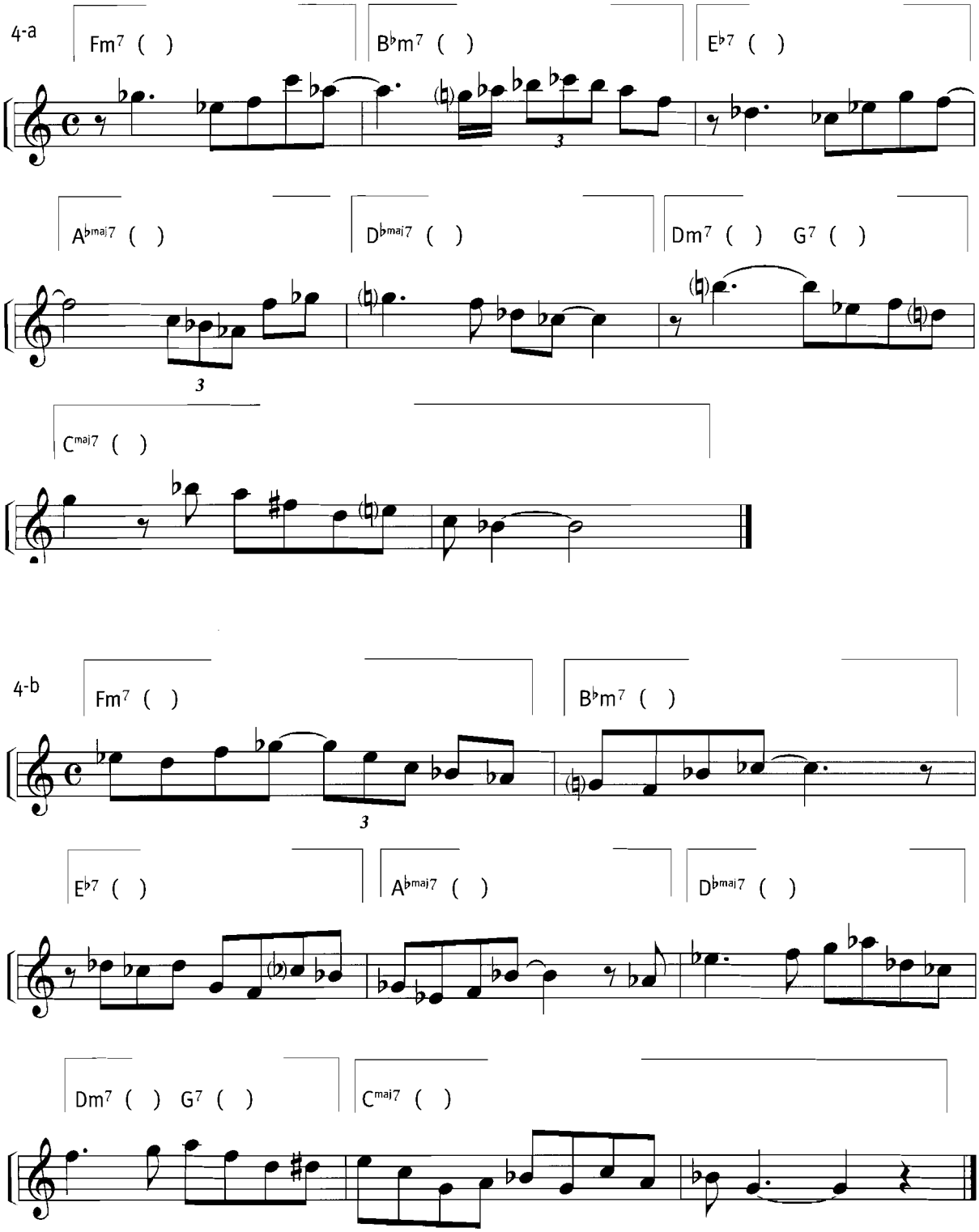
II. Variations 2a and 2b: vertical melodies using the Lydian Augmented Scale.



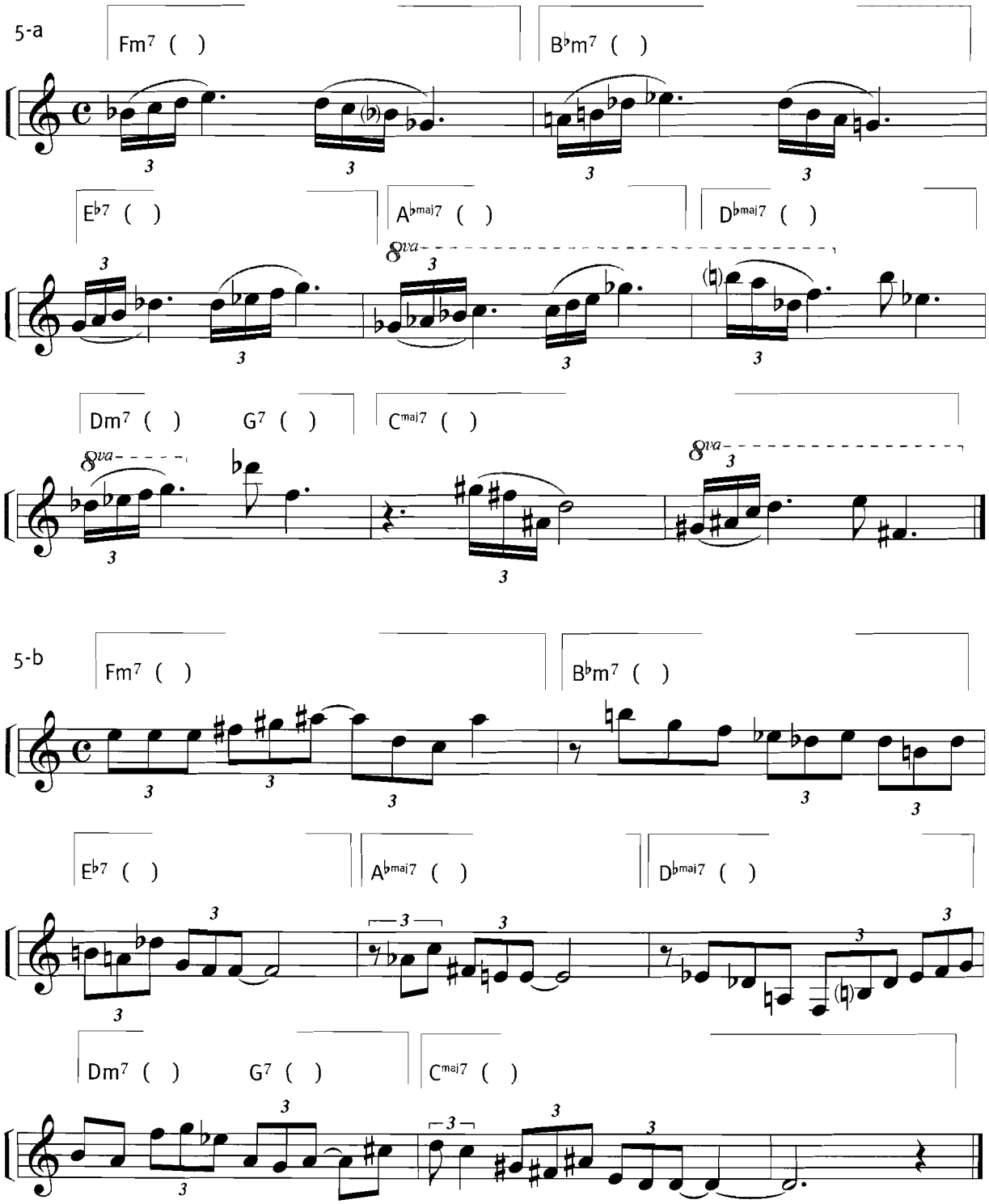
III. Variations 3a and 3b: vertical melodies using the Lydian Diminished Scale.



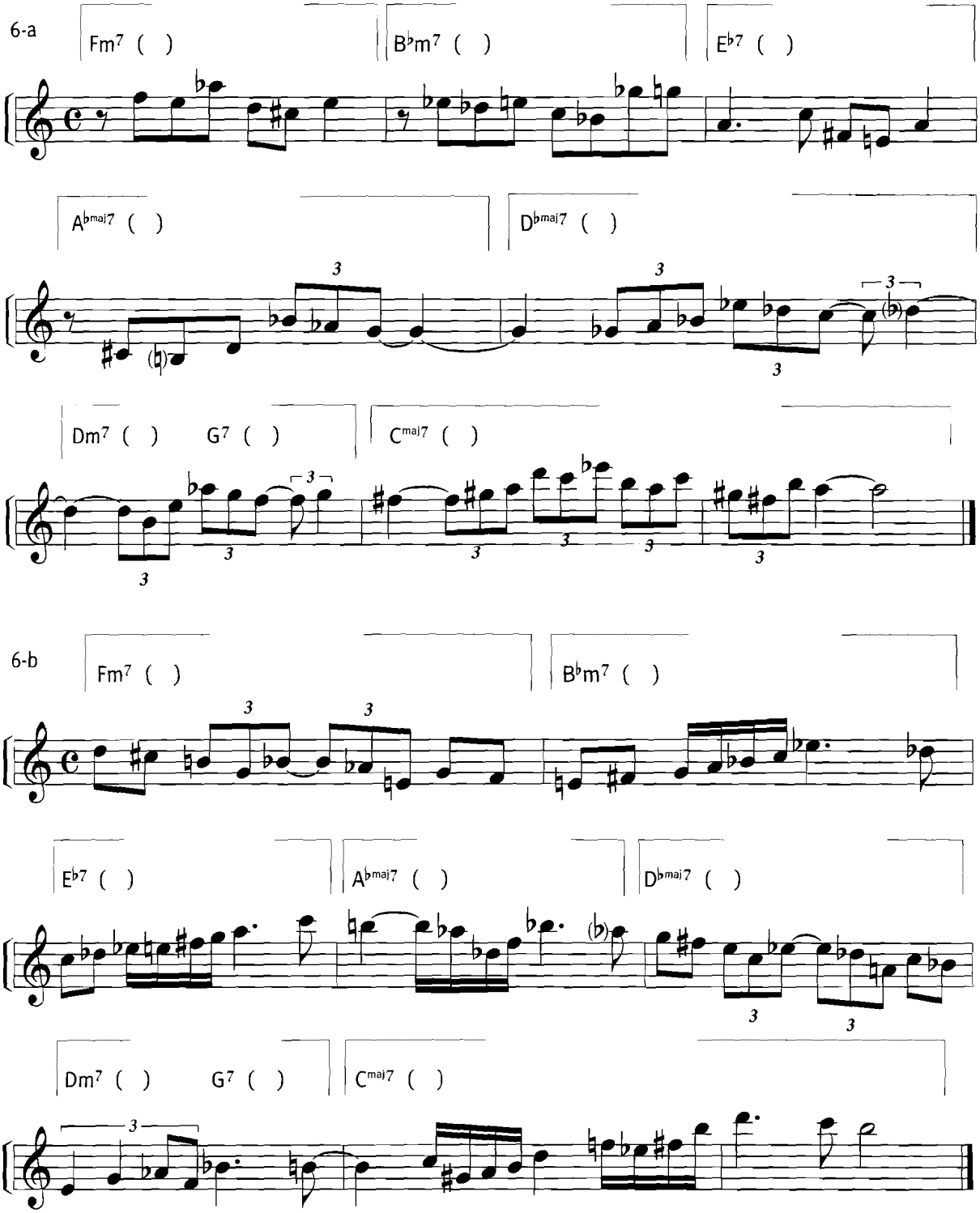
IV. Variations 4a and 4b: vertical melodies using the Lydian Flat 7th scale.



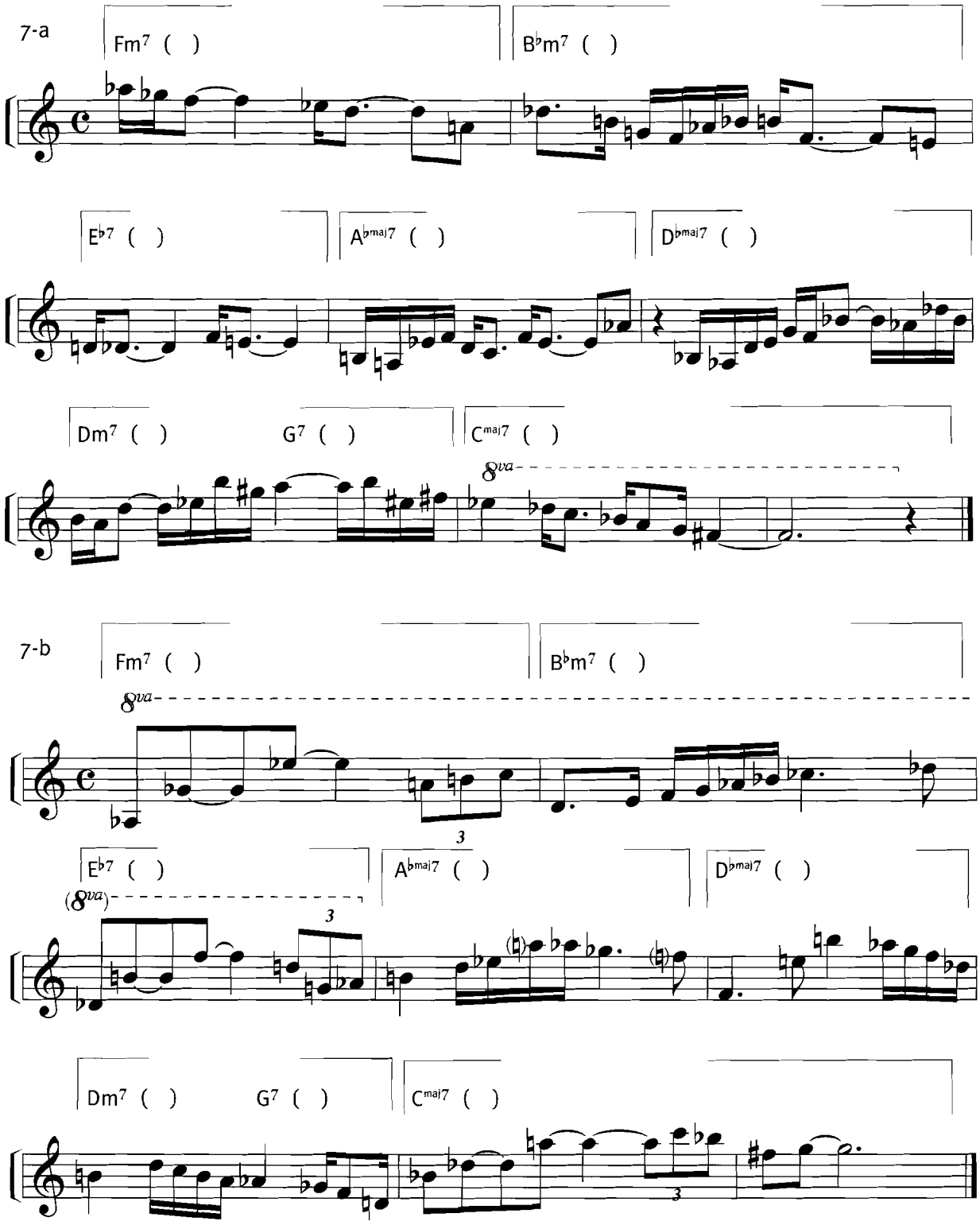
V. Variations 5a and 5b: vertical melodies using the auxiliary augmented scale.



VI. Variations 6a and 6b: vertical melodies using the auxiliary diminished scale.



VII. Variations 7a and 7b: vertical melodies using the auxiliary diminished blues scale.



Test C

1. Create your own vertical melody for the eight-bar chord progression used in Test B. However, instead of featuring only one particular principal scale color, you may use your aesthetic judgment in choosing a sequence of varied principal scale types to be sounded sequentially along with the chords occurring in the progression. Here are the first four bars as one possible example:

EXAMPLE IV:8

A♭ Lyd Aug	*D♭ Aux Dim*	*D♭ Lyd Dim*	*A♭ Lydian*
F m^{7} (VI)	B♭ m^{7} (VI)	E♭ ^{7} (II)	A♭ ^{maj7} (I)

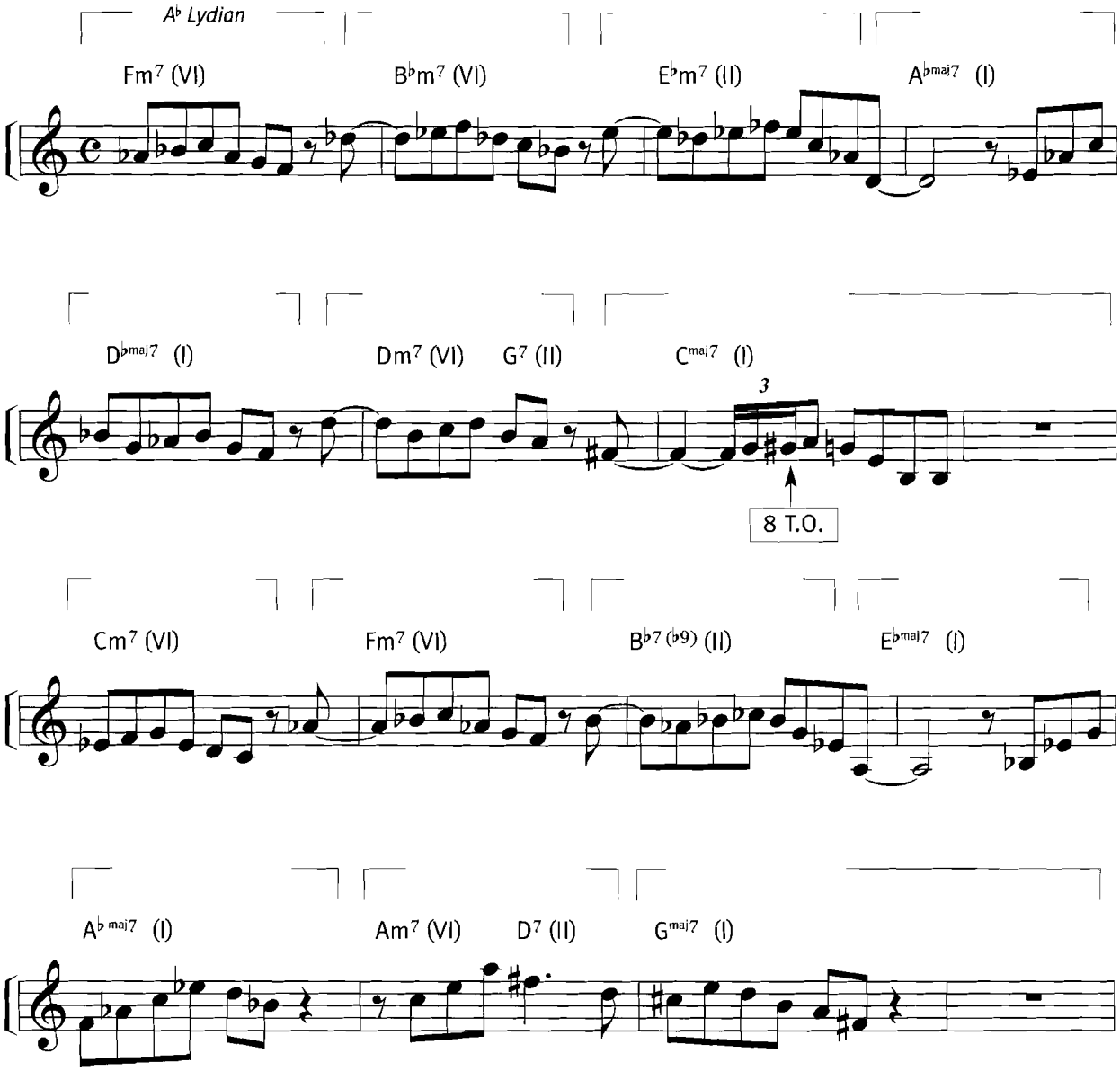
2. The chord changes used in Tests B and C are (as you may have recognized) those of the first eight bars of Jerome Kern's standard *All the Things You Are*. Continue creating your vertical melody in the same manner for the remainder of the entire tune.

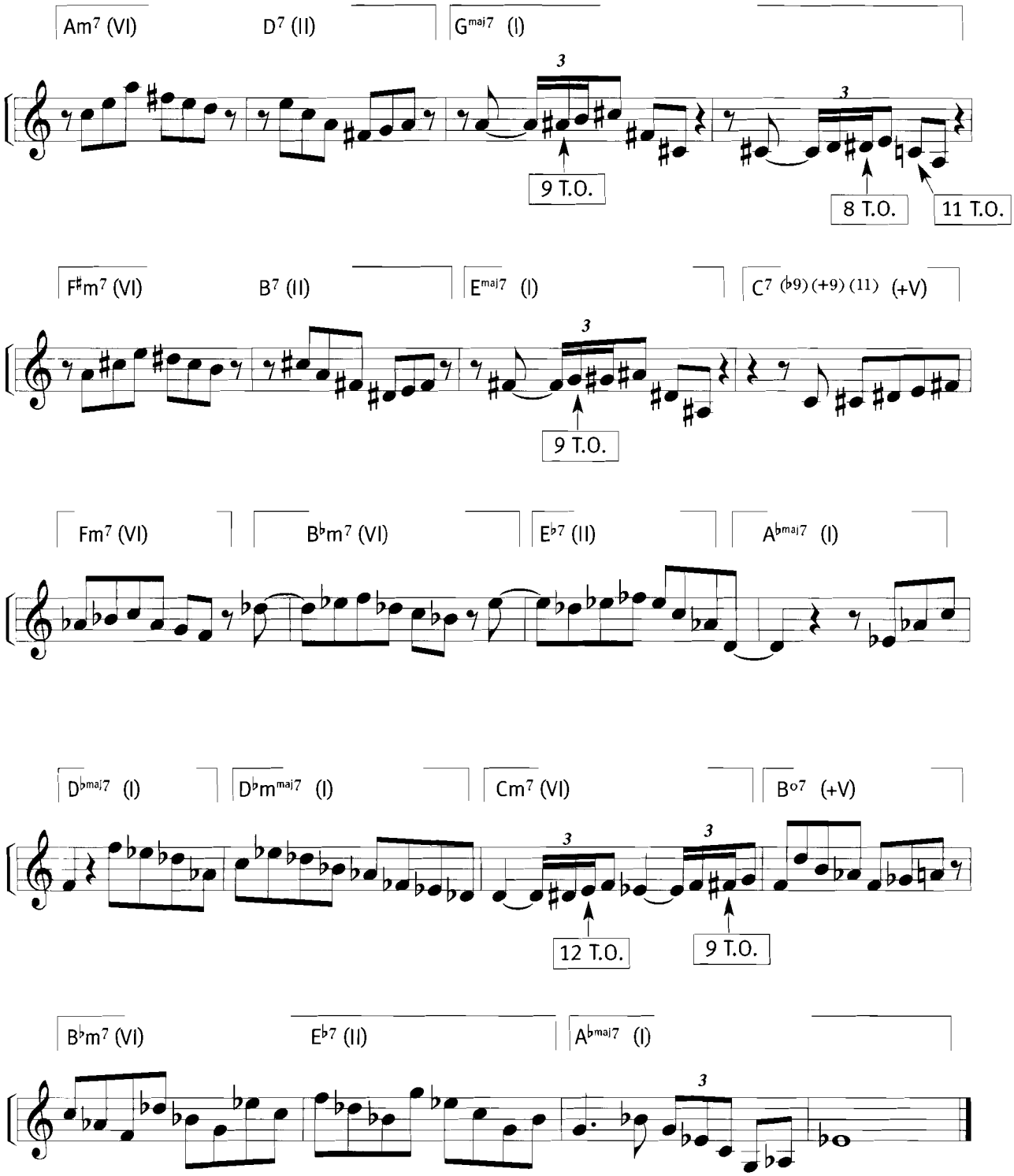
Test D

In the bracket above each chord, note the proper parent scale indicated by the PMT degree roman numeral as well as by the tones of the melody in that bar (Bar 1 is completed for you). Also note the initials CE for "chromatic enhancement" in those bars featuring the occasional non-scale tone in the parent scale mix. The tonal order of such bars (i.e., 8 T.O.) is already indicated.

All the Things You Are

JEROME KERN




Am7 (VI)
D7 (II)
Gmaj7 (I)
9 T.O.
8 T.O.
11 T.O.
F♯m7 (VI)
B7 (II)
Emaj7 (I)
C7 (♭9) (+9) (11) (+V)
9 T.O.
Fm7 (VI)
B♭m7 (VI)
E♭7 (II)
A♭maj7 (I)
D♭maj7 (I)
D♭mmaj7 (I)
Cm7 (VI)
B°7 (+V)
12 T.O.
9 T.O.
B♭m7 (VI)
E♭7 (II)
A♭maj7 (I)

The entire melody of this thirty-six bar song is derived from principal scales of the parent LC Scale indicated by each chord. Melodies resulting from this method of parent LC Scale relating are referred to as INGOING VERTICAL MELODIES. Ingoing vertical melodies constitute the chief way in which melody behaves on the Level of Vertical Tonal Gravity.

One might confidently say that the Level of VTG consists of a sequence of PREVAILING CHORDMODE/PARENT LC SCALE ALLIANCES (VTG ALLIANCES). Within each VTG alliance a several note melody is derived from a principal scale, associate member scale or tonal order of the Parent LC Scale dictated by the prevailing chord (chord of momentary reference). This vertical melody imposes the tonal color of its relative Principal Scale on the prevailing chord, that is, the melody colors the chord of the moment with the designated parent (or member) scale derived from its parent LC Scale.

Occasionally, an ingoing vertical melody may evidence incidents of CHROMATIC ENHANCEMENT (CE). Chromatic enhancement is a method of extending a scale-derived melody by mixing scale tones with non-scale tones (traditionally referred to as passing tones).

The Lydian Chromatic Concept insists on identifying the tonal order of a scale-related melody if one or more non-scale tones appears in its structure. This is determined by the tonal order of the most outgoing non-scale tone if several occur in the structure of a melody.

2. See Test D, bars 7, 19, 20, 23, 31.

CHAPTER V

Determining the Parent Scale/Parent LC Scale of a Chord

For the E♭7 chord, the parent scale is D♭ Lydian. Not only D♭ Lydian, but also any of the other scales listed on Chart A may be built on the D♭ Lydian Tonic and used as a source of melodic vertical color with the chord.

A vertical melody for an E♭7 chord may therefore be derived from any one (or more) of the following seven scales:

1. D♭ Lydian (parent scale)
2. D♭ Lydian Augmented
3. D♭ Lydian Diminished
4. D♭ Lydian Flat 7th
5. D♭ auxiliary augmented
6. D♭ auxiliary diminished
7. D♭ auxiliary diminished blues

These seven scales represent the primary vertical colors of music. Each scale contributes its own melodic color to the sound of the chord. They are consequently referred to in the Lydian Chromatic Concept as the VERTICAL PRINCIPAL SCALES of a Lydian Chromatic (LC) Scale.

As mentioned at the end of Chapter II, these seven scales combine to complete a chromatic (twelve-tone) scale. This chromatic scale, with its inherent tonal orders and tonal levels, is called the Lydian Chromatic Scale, and is created when the four Lydian Scales (Lydian, Lydian Augmented, Lydian Diminished and Lydian Flat Seventh) are combined with the three auxiliary scales (auxiliary augmented, auxiliary diminished, and auxiliary diminished blues).

EXAMPLE V:1

The D♭ Lydian Chromatic Order of Tonal Gravity

D♭	A♭	E♭	B♭	F	C	G	A	E	B	G♭	D♮
I	V	II	VI	III	VII	+IV	+V	♭III	♭VII	IV	♭II

There are twelve Lydian Chromatic Scales. A different Lydian Chromatic Scale exists on each tone of the chromatic scale. As this book continues, it will explain how the Lydian Chromatic Scale is the scale from which all musical ideas may be derived. This is no small claim, but then, tonal gravity has never formally figured into Western music theory until introduced by the 1953 edition of this book. It showed how tonal gravity is the governing force of harmony, objectively explaining the relationship which any group of tones has to a Lydian Tonic as its center of tonal gravity.

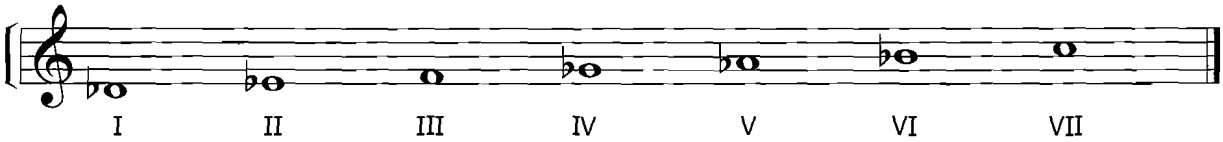
Each Lydian Chromatic Scale contains the seven vertical (chord-producing) Principal Scales listed on Chart A, and four additional scales which are not listed on the chart: the major, major flat seventh, major sharp fifth, and African-American blues (not to be confused with the auxiliary diminished blues scale).

These four additional member scales of the LC Scale are termed HORIZONTAL SCALES because of their inclusion of the fourth degree (solfège *fa*) which causes them to sound a resolving tendency towards—rather than a vertical unity with—the Lydian Tonic. Within the D♭ LC Scale (the parent LC Scale of the E♭7 chord in present discussion), their structure is:

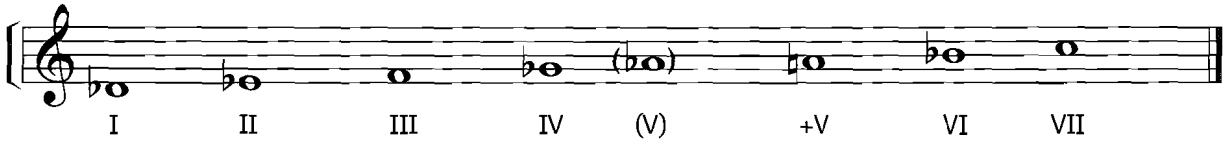
EXAMPLE V:2

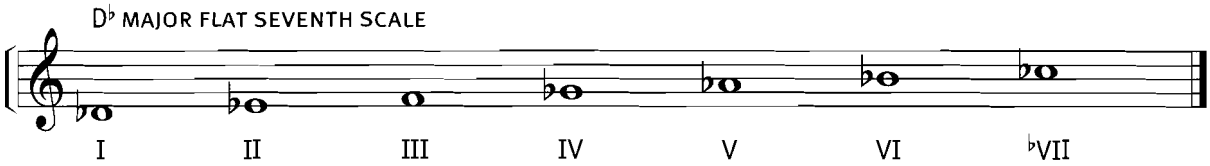
The four horizontal scales of the D♭ LC Scale

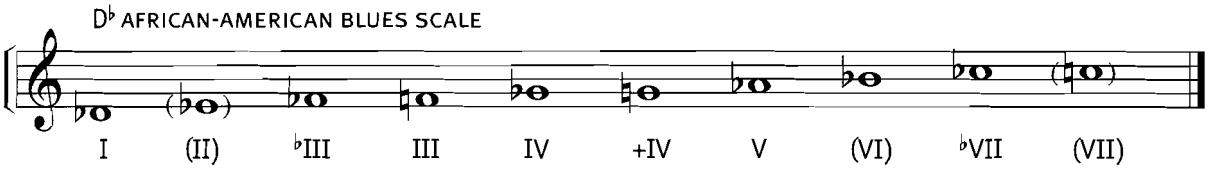
D♭ MAJOR SCALE



D♭ MAJOR SHARP 5TH SCALE







The four horizontal scales, although not considered chord producing scales, may be used in vertical situations as well, since they still remain rooted on the Lydian Tonic of a chord's parent LC Scale. However, the thrusting, resolving quality of the horizontal scale makes its presence felt even in their vertical application. Such melodies should be regarded as VERTICALLY APPLIED (VERTICALIZED) HORIZONTAL SCALE MELODIES, that is, the horizontal scale yields to the type of behavior imposed upon it by the level of vertical tonal gravity and its principal features.[1,2]

The four horizontal scales have a cultural, historical, as well as a theoretical significance that supports their inclusion as member scales of the LC Scale. Their broader role in melody is discussed in later lessons.

A chord converted into its parent scale is converted into its parent Lydian Chromatic Scale as well. It might be said that the parent scale of a chord is actually a "smaller" parent scale within the "bigger" parent scale: the Lydian Chromatic Scale. Example v:3 shows D♭ Lydian as the parent scale of an E♭7 chord. However, D♭ Lydian is just one of the eleven member scales that may be used to color an E♭7 chord within the D♭ Lydian Chromatic Scale (the parent Lydian Chromatic Scale of the chord.)

1. See John Coltrane's *Giant Steps* solo, bar 3.
2. See "The Law of Vertical Tonal Gravity," later in this chapter.

EXAMPLE V:3

$E^{\flat 7}$ chord

The $D^{\flat}$ Lydian Chromatic Scale is the parent LC Scale

SEVEN VERTICAL SCALES

1. $D^{\flat}$ Lydian (Parent Scale)
2. $D^{\flat}$ Lydian Augmented
3. $D^{\flat}$ Lydian Diminished
4. $D^{\flat}$ Lydian Flat Seventh
5. $D^{\flat}$ auxiliary augmented
6. $D^{\flat}$ auxiliary diminished
7. $D^{\flat}$ auxiliary diminished blues

FOUR HORIZONTAL SCALES

8. $D^{\flat}$ major
9. $D^{\flat}$ major sharp 5th
10. $D^{\flat}$ major flat 7th
11. $D^{\flat}$ African-American blues

$D^{\flat}$ Lydian is the parent scale for not only the $E^{\flat 7}$ chord, but also for the $E^{\flat 9}$, $E^{\flat 11}$, and $E^{\flat 13}$ chords—an entire 7th chord family listed above roman numeral II of the Lydian Scale on Chart A. The fact that mode II of the Lydian Scale creates a 7th chord family establishes the broader relationship that 7th chords in general are found primarily on the second degree of the LC Scale. By glancing down the descending order of principal scales over modal tonic degree II you can see various members of the 7th chord family—for example, a 7th/+11 chord over modal tonic degree II of the Lydian aug scale, a 7th/$^{\flat}$9 on Lydian dim mode II, etc.

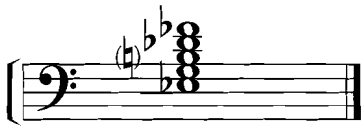
On the left side (of the brain[1]) of Chart A are listed eight chord categories (referred to as Primary Modal Genres). All definable chords in Western music can be reconciled with one of these eight chord categories. To the left of each category is a large roman numeral. This is the scale degree (or Primary Modal Tonic), indicating the root position of the chord within its parent scale.

By memorizing the eight PRIMARY MODAL GENRES (PMG) and their corresponding PRIMARY MODAL TONIC (PMT) degree, the whole process of converting chords into their parent scales should become a natural process within a short time.

1. If the brain of Chart A is its left (PMG) side, then the right side is its body of Principal Scales. One should begin the search for a chord's Primary Parent Scale with the "brain" first.

To find the parent scale of a more complex chord, the same principle applies.

For example, $E^{\flat 7+5\,\flat 9}$ ($E^{\flat}$, G, B, $D^{\flat}$, $F^{\flat}$)



The scale which most closely conveys the sound of this chord—the parent scale of the $E^{\flat 7+5\,\flat 9}$ chord—is revealed by Chart A. Simply use the following method:

EXAMPLE V:4

Procedure for using Chart A to determine the parent scale of a chord

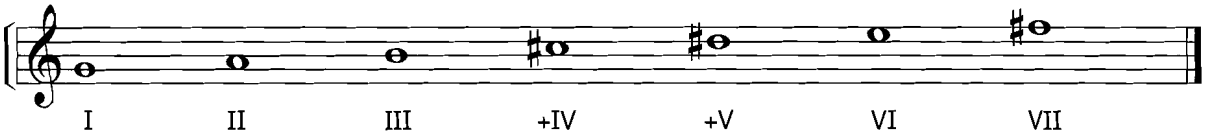
1. Identify the prevailing chord by its name: $E^{\flat 7+5\,\flat 9}$
2. Classify the chord with its proper PMG: +V seventh +5 PMG (Any seventh chord having an augmented 5th should be classified with this PMG initially)
3. Follow the instructions beneath the chord category in order to find the parent scale of the chord. The instruction beneath the 7th +5/ PMG states:

   Parent scale is the first Principal Scale in the descending order to list the prevailing chordmode over primary modal tonic +V. Lydian Tonic is the major third degree of the chord.

The first scale in Chart A's descending order of Principal Scales to list a seventh chord over Primary Modal Tonic Degree +V is the Lydian Augmented Scale. If the tone $E^{\flat}$, the root of the $E^{\flat 7+5\,\flat 9}$ chord lies on PMT +V of its Parent [LC] Scale, then the tone G is the Lydian Tonic of that scale. The parent scale, the scale that sounds a unity with the $E^{\flat 7+5\,\flat 9}$ chord, is the G Lydian Augmented.

EXAMPLE V:5

G LYDIAN AUGMENTED SCALE



EXAMPLE V:4

Use the parent scale and/or any other member scales of the prevailing Lydian Chromatic Scale as a source of melodic color with the chord. The parent scale, G Lydian Augmented, is closest to the sound of the $E^{\flat 7+5\,\flat 9}$ chord. Naturally, any member scale of the G Lydian Chromatic Scale (the Parent LC Scale of the $E^{\flat 7+5\,\flat 9}$ chord) may also be used.

EXAMPLE V:6

$E^{\flat 7+5\,\flat 9}$ chord

The G Lydian Chromatic Scale is the parent LC Scale

ELEVEN MEMBER SCALES OF THE G [LC] SCALE

1. G Lydian
2. G Lydian augmented (parent scale)
3. G Lydian diminished
4. G Lydian flat 7th
5. G auxiliary augmented
6. G auxiliary diminished
7. G auxiliary diminished blues
8. G major
9. G major sharp 5th
10. G major flat 7th
11. G African-American blues

The eight Lydian Tonic intervals of the LC Scale

On the Level of Vertical Tonal Gravity, it is absolutely essential to connect a prevailing chord's PMT root with its parent Lydian Tonic. The eight PMT roots for all traditionally definable chords manifested by a single LC Scale are represented by the large, descending roman numerals in the Primary Modal Genre section of Chart A. The instruction beneath each PMG lists the degree on which lies the parent Lydian Tonic for all chords and chord families of that PMG.

The interval between a PMT and its parent Lydian Tonic is called the LYDIAN TONIC INTERVAL (for that PMG). Committing to memory the Lydian Tonic interval for each of the eight PMG of the LC Scale facilitates the most necessary vertical tonal gravity procedure of relating the prevailing chord to its parent LC Scale.

The two tones of a PMG's Lydian Tonic interval have their separate function:

1. The parent Lydian Tonic functions as the center (or sun) of a PMG's tonal organization, that is, the tonal center of its primary parent LC Scale;
2. The PMT degree defines the harmonic genre of the chords and chord families of the PMG resulting from the imposition of the tonal organization of the parent [LC] Scale on that PMT degree.

The following chart may be helpful in memorizing the Lydian Tonic intervals of all eight PMG of a Lydian Chromatic Scale:

EXAMPLE V:7

The Lydian Tonic Intervals
of the Eight Primary Modal Genres

PRIMARY MODAL GENRE		*LYDIAN TONIC INTERVAL (Distance up from PMT to Lydian Tonic)*
PMT		DEGREE OF CHORD ON WHICH PARENT LYDIAN TONIC RESIDES
I	major and altered major	TONIC (PMT is the Lydian Tonic)
II	seventh and altered 7th	FLAT 7TH
III	[I] major 3B / minor +5	AUGMENTED 5TH
+IV	minor 7th ♭5	AUGMENTED 4TH
V	[I] major 5B	4TH
VI	minor and altered minor	MINOR 3RD
VII	[I] major 7B / 11th ♭9	FLAT 2ND
+V	7th +5	MAJOR 3RD

Test A

Following the procedure for determining the parent scale of a chord (Example v:4) locate the Lydian Tonic of each chord and then identify its parent scale and PMT degree roman numeral. The first chord has been completed for you.

EXAMPLE V:8

CHORD	PARENT SCALE	CHORD	PARENT SCALE
1. $B^{\flat 7\,\flat 9}$	= A♭ Lyd Dim II	8. $E^{\flat 7\,\flat 9}$	= _____
2. $A^{\flat 13}$	= _____	9. F^{7+5}	= _____
3. $D^{7\,\flat 5}$	= _____	10. $G^{\flat 7\,\flat 5}$	= _____
4. $G^{7\,\flat 5}$	= _____	11. $E^{7\,\flat 5\,\flat 9}$	= _____
5. C^{11}	= _____	12. $B^{7+5\binom{\flat 5\,\flat 9}{+9}}$	= _____
6. $D^{\flat 7\,\flat 5}$	= _____	13. $A^{7+5\binom{\flat 5\,\flat 9}{+9}}$	= _____
7. $B^{7+5\binom{\flat 9}{+9}}$	= _____	14. C^{13+11}	= _____

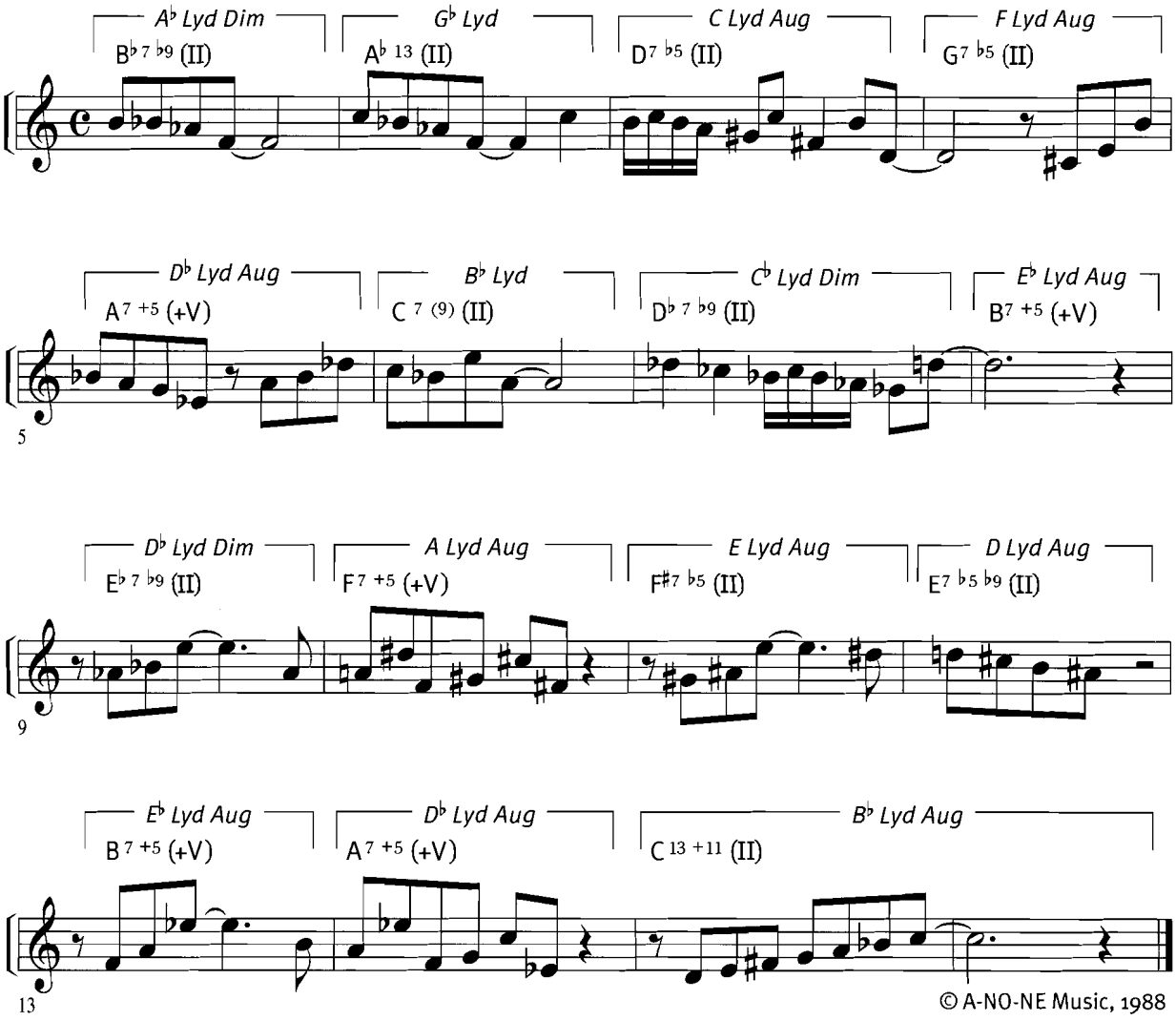
Using this fourteen-chord sequence in unmodified order, proceed to compose a piece featuring a vertical melody derived from the parent scale of each chord. In compliance with the Law of Vertical Tonal Gravity, a vertical melody must be an ACTIVE VERTICAL MELODY, that is, a melody consisting of several notes per chord derived from the parent [LC] Scale designated by each chord and structured in a manner that convincingly conveys the harmonic genre of the chord (prevailing chord) within its period of duration.[1] As a consequence of this application of "vertical consciousness" to melody, an area of music featuring a vertical melody will be one in which the melody projects the harmonic genre of virtually each chord—with or without accompaniment of any sort.

1. This is, in essence, the law for the Level of Vertical Tonal Gravity (see: Law of VTG, this chapter).

The following composition is an excellent example of Test A:

Monk's Monku

HIROAKI HONSHUKU



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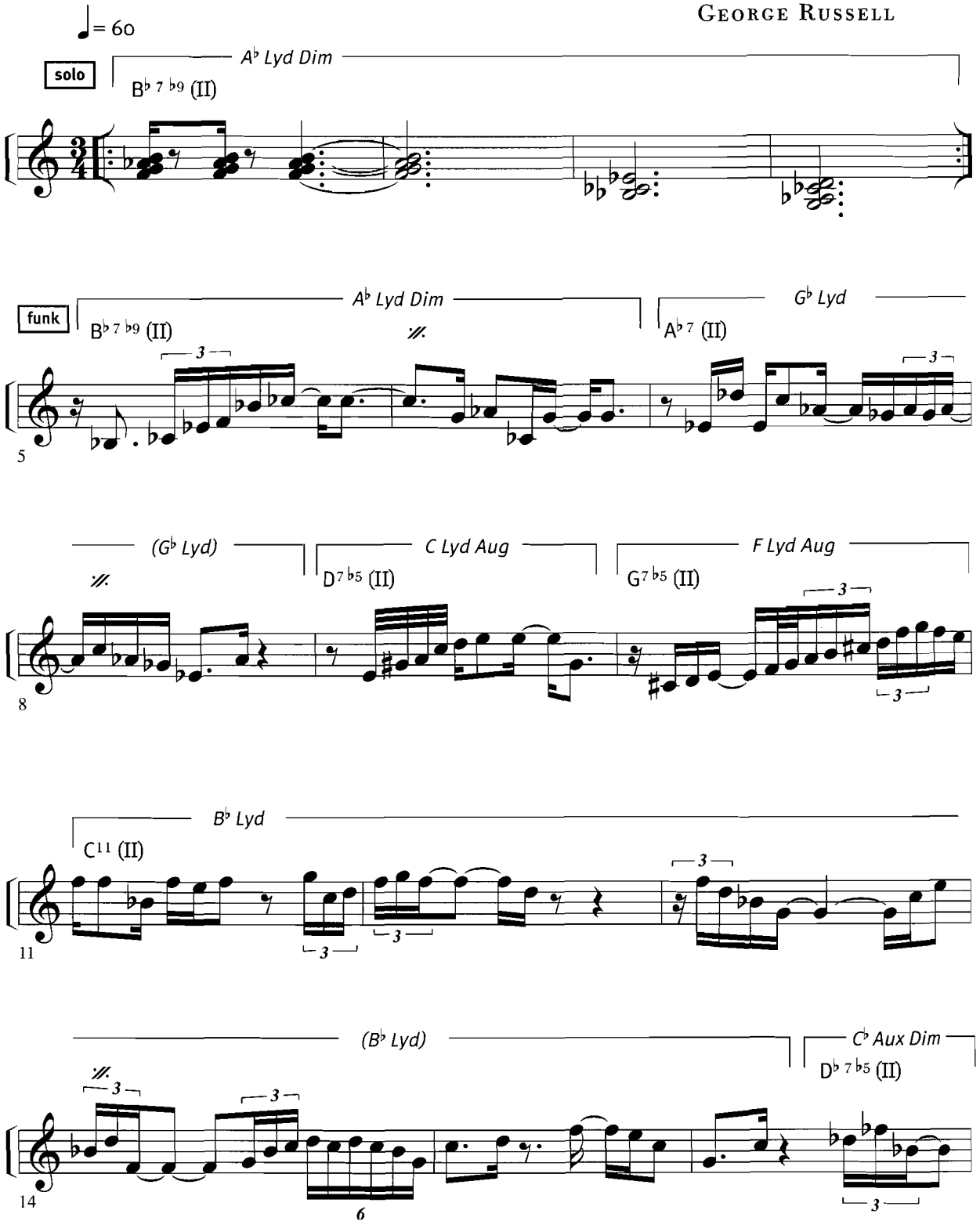
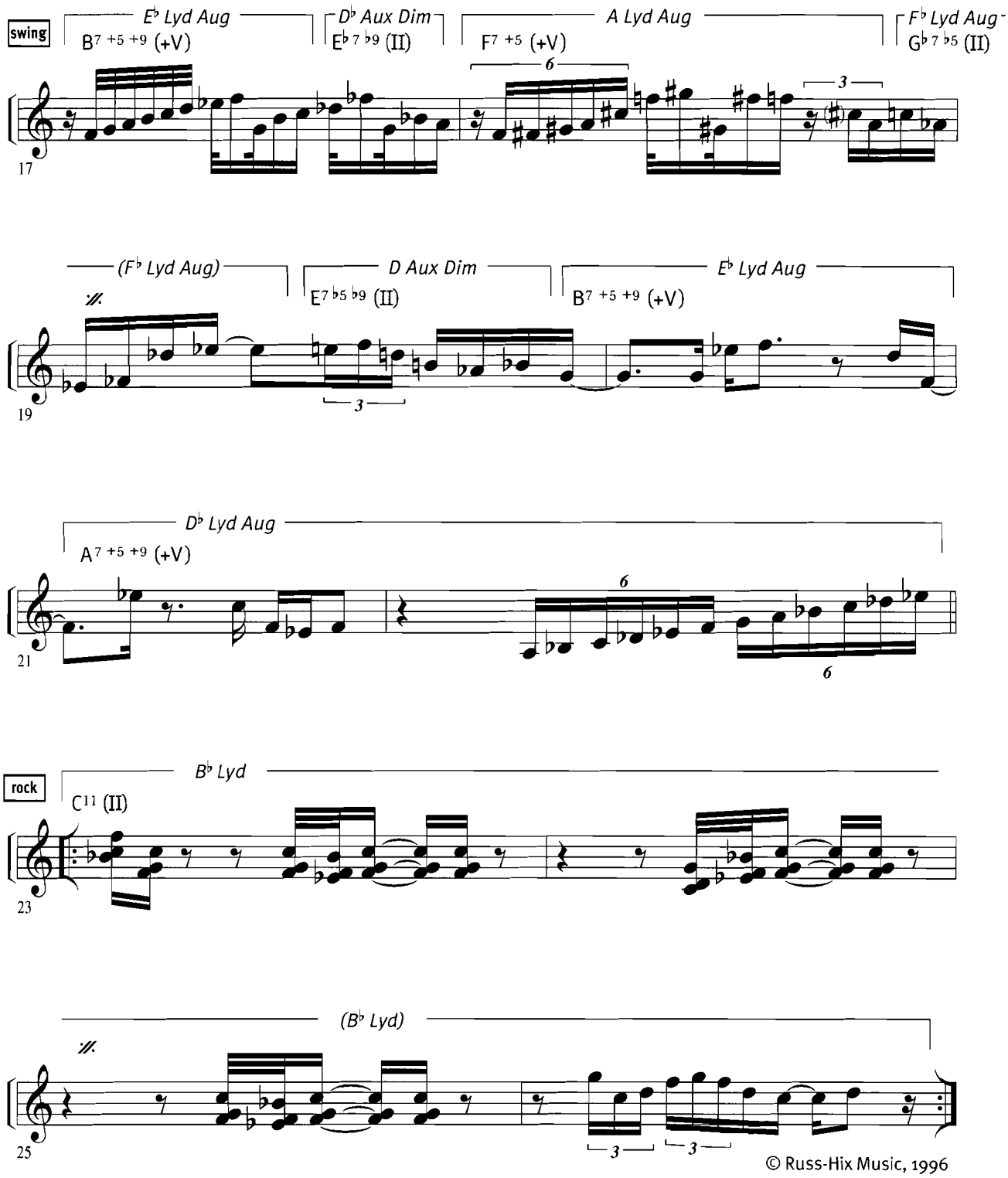
The melody of this composition, based on Test A, can be played completely without chordal accompaniment—with only a bassist emphasizing the root of each chord while creating a bass line from the other tones of each chord's parent scale. The parent scale of each chord sounds the harmonic genre of the chord so faithfully, and with such a degree of unity, that it only requires the presence (inference) of a chord's root to convey its harmonic genre precisely.

Pictures 'n' Echoes

George Russell





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The Law of Vertical Tonal Gravity

Principal feature: The principal feature of the Law of Vertical Tonal Gravity requires the presence of a melody related to the Parent LC Scale dictated by virtually each chord of a chord progression. *From the Parent LC Scale of each Prevailing Chord,*[1] *one or more member scales are used to derive a several note melody (two or more tones) structured to convey the harmonic genre of that chord for all or the greater part of its duration.* This type of melody is referred to as an INGOING VERTICAL MELODY.

Focusing on each chord of a progression in order to "melodize" the chord establishes a type of melodic behavior termed an ingoing vertical melody, that is, a melody behaving in the manner prescribed by this principal feature of the Law of the Level of Vertical Tonal Gravity.

The Level of Vertical Tonal Gravity is validated by the existence of this ingoing vertical melody, derived from any of the eleven member scales[2] of the Parent [LC] Scale dictated by virtually each chord within a chord progression.

Chromatically enhanced vertical melodies have already been explained in Test D, Chapter IV as a way to extend vertical parent scale melodies by borrowing one or more non-parent scale tones from any of the Prevailing LC Scale's five tonal orders. However, even though such melodies may, to some degree, bend the Principal Feature of the Law of VTG, it still must be committed to it, and consequently must—to a convincing degree—convey the harmonic genre of the Prevailing Chord.

Secondary feature: More outgoing melodic resources[3] may occur on the level of VTG, as long as the chief feature of its law is maintained. This requires the musician to continue to derive the melody from the parent LC Scale indicated by each chord of the chordstream; a vertical melody designed ultimately to convey each chord's harmonic genre for the greater part of its period of duration. Chart A serves as the most practical tool in helping the

1. "Prevailing Chord" is defined as the chord of momentary reference to which the musician relates in order to derive from a member scale of its Parent LC Scale a several note melody conveying its harmonic genre.
2. See Chapter VI
3. See alternate Parent LC Scales (Chapter VI).

student to identify Prevailing Chord/Parent LC Scale relationships, also referred to as PREVAILING CHORD/PARENT LC SCALE ALLIANCES.

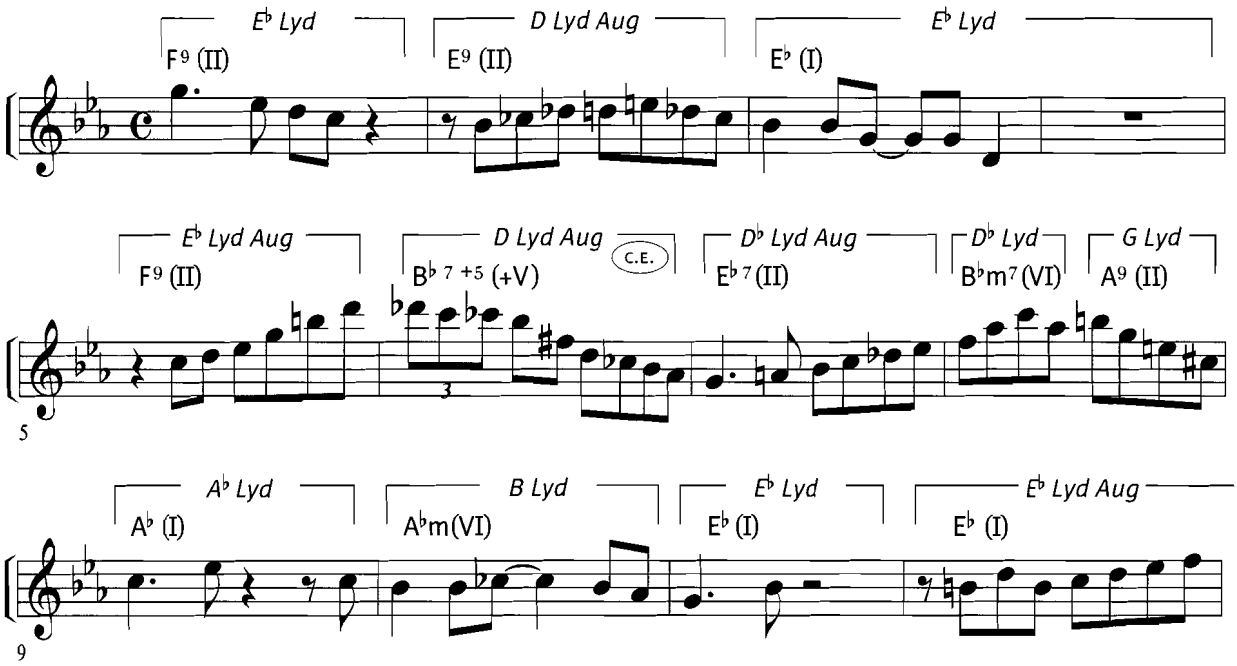
The late Barry Galbraith was a guitarist for all seasons. He recorded with Miles Davis, Billie Holiday, Lester Young, Woody Herman (Stravinsky's *Ebony Concerto*) and virtually everyone else. He was an original member of the legendary Claude Thornhill Orchestra with Gil Evans. He was a member of the NBC Tonight Show Band and the Miles Davis *Birth of the Cool* nonet. He worked all the great jazz clubs in New York.

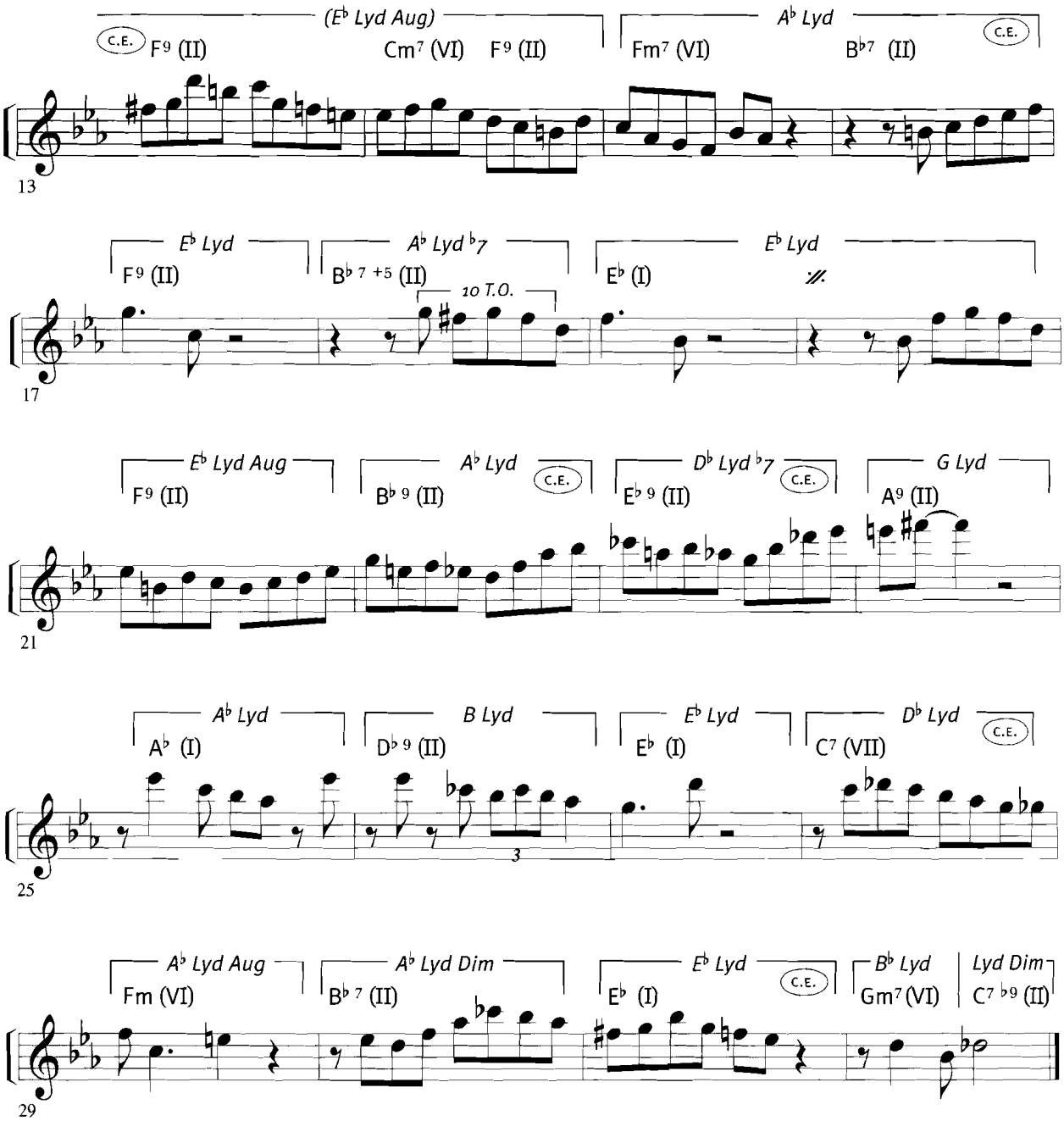
On all of my RCA smalltet recordings, Barry *was* my orchestra. You could write anything and Barry would not just play it, he would blend it in with the other instruments and make it sound like a big orchestra. He was a giant among musicians and one of the best friends I (and music) ever had.

The first 32-bar chorus of Barry Galbraith's *Not Me* solo has been fully analyzed. Test B requires the student to analyze the second 32-bar chorus in the same manner. The PMT roman numeral of a chord indicates its Parent LC Scale. You simply need to note, in the bracket above the chord, your choice of the principal scale (within the chord's Parent LC Scale) that is most compatible with the tones of the melody sounding with that chord. Use Chart A to help you in locating the proper parent scale if need be.

Not Me

BARRY GALBRAITH'S SOLO



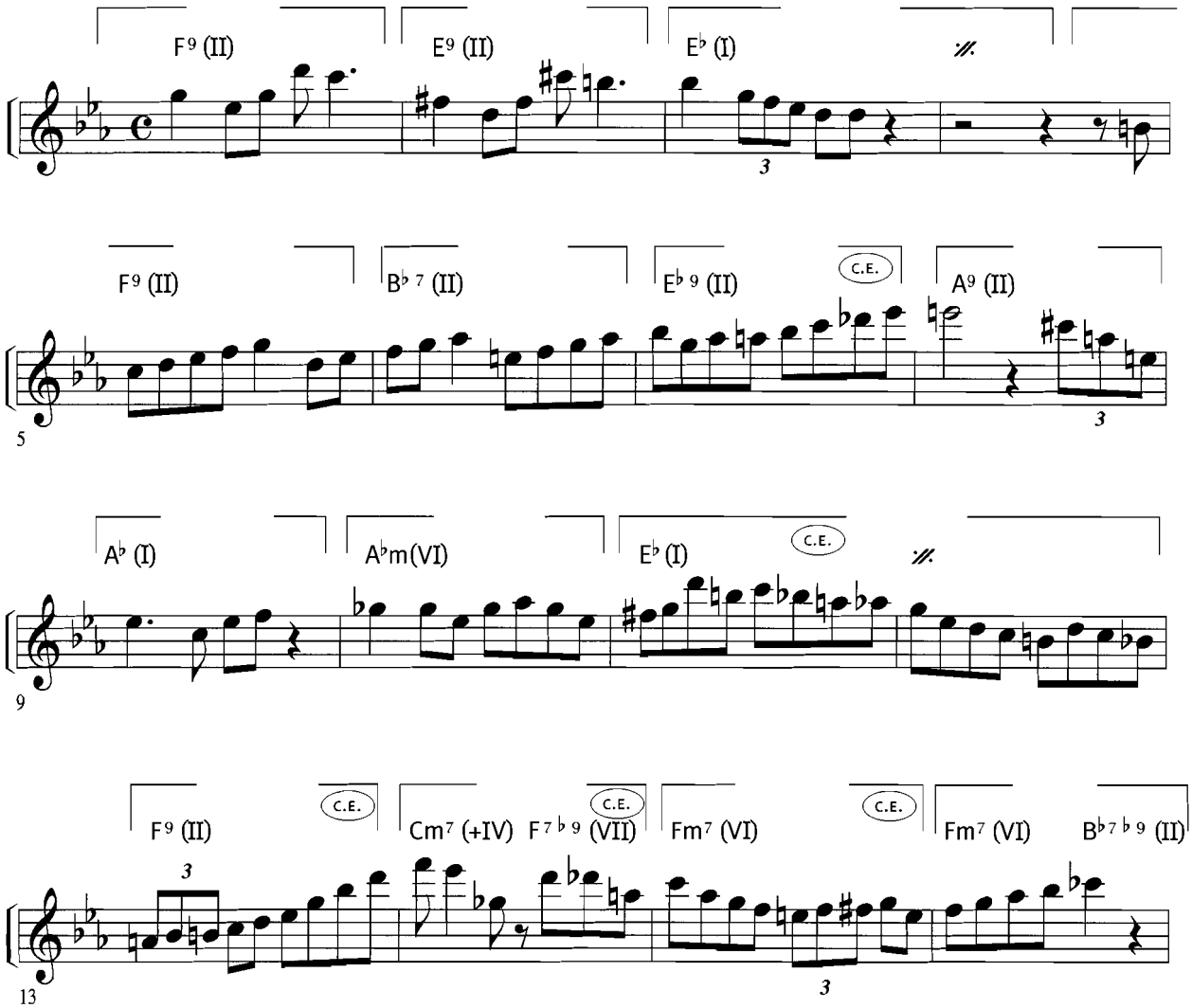


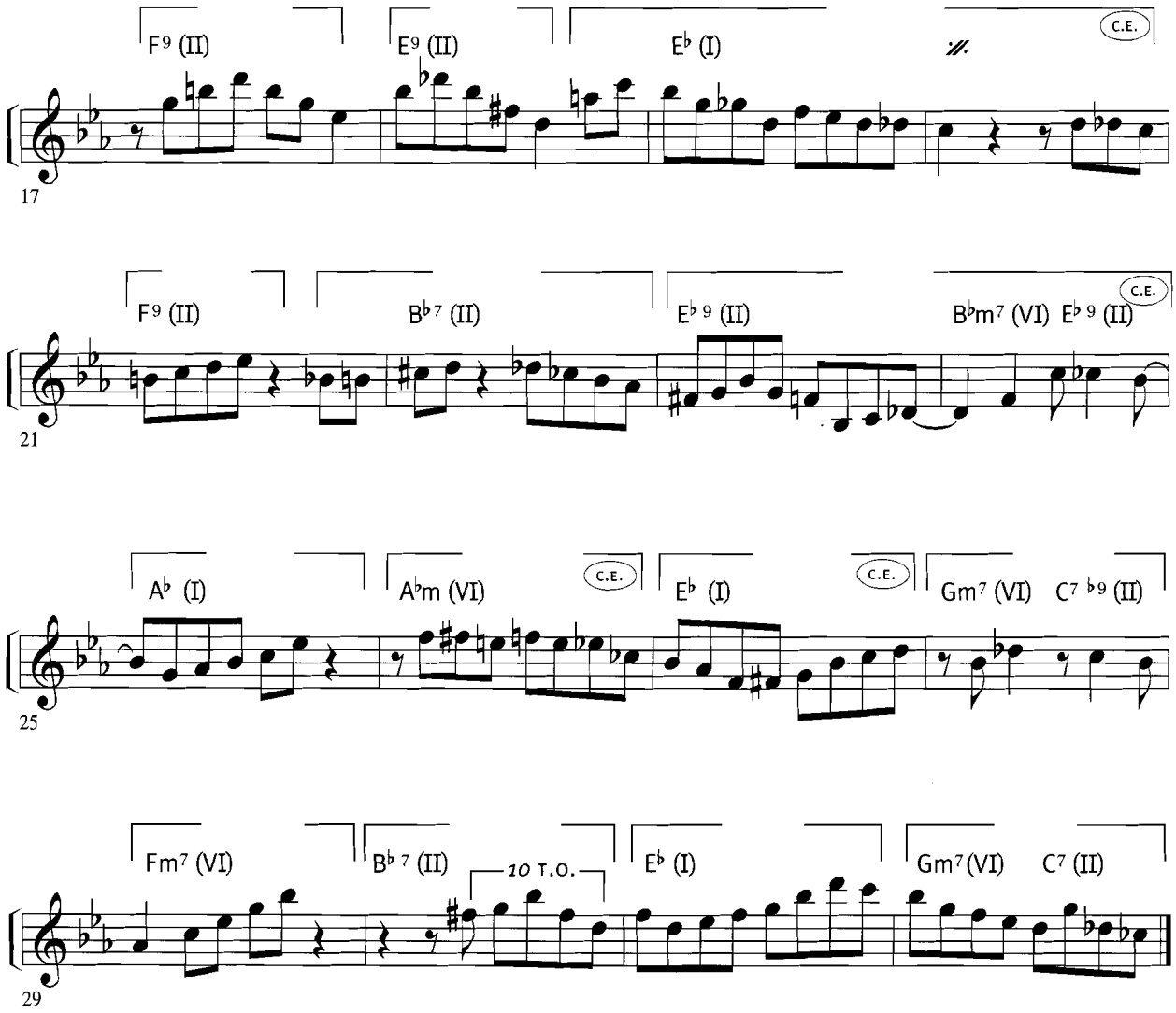
In bar 28, Barry imposes alternate modal tonic degree VII on the C♮ root of the C seventh chord. This places the C seventh chord and its root tone, C♮, on Alternate Modal Tonic degree VII (C♮) of the D♭ LC Scale. Only the Parent LC Scale (D♭ Lydian) and the position within it of the C seventh chord have changed; that is, the tonic of the C seventh chord now rests on the same

C♮, but C♮ as Alternate Modal Tonic (AMT) VII of the D♭ Lydian Chromatic Scale. The same C seventh chord remains on the same tones but now within the context of the D♭ LC Scale. The Prevailing LC Scale for bar 28 becomes the D♭ LC Scale from which a D♭ Lydian Scale melody is fashioned with the tone G♭ used as chromatic enhancement.

Test B

The second chorus of the *Not Me* solo by Barry Galbraith requires the student to note the parent scale of each chord in the bracket above it.

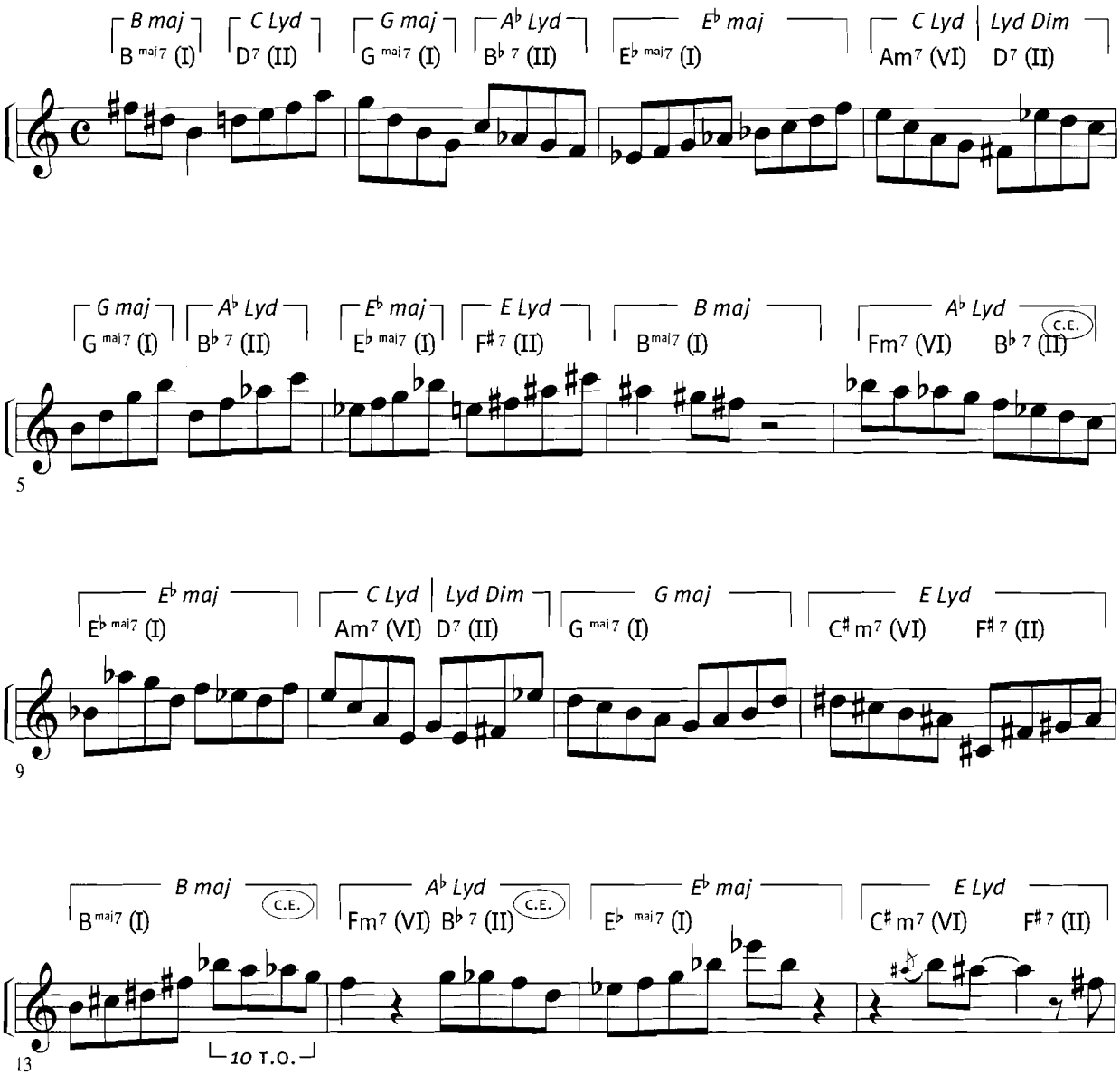


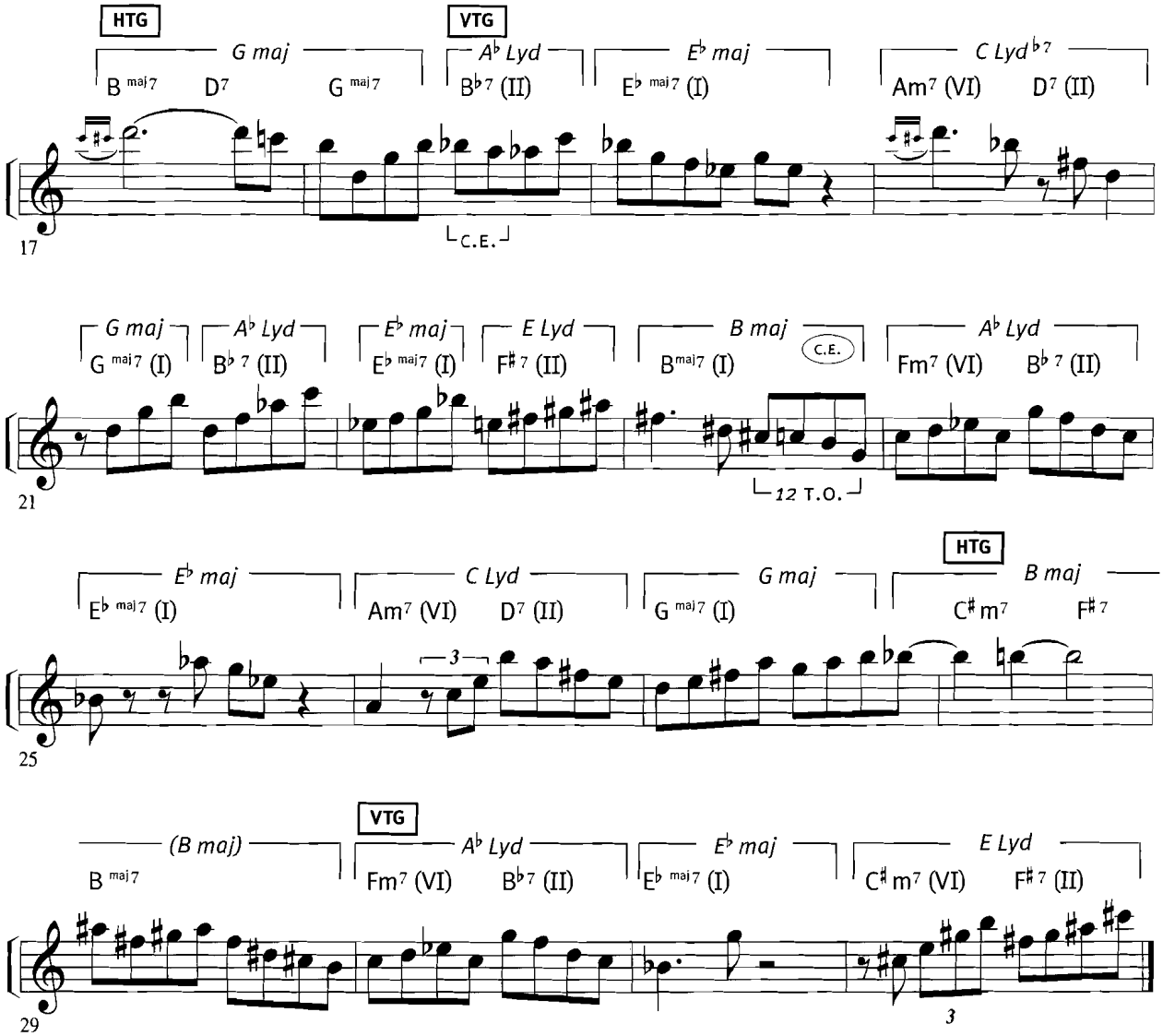

F9 (II)
E9 (II)
E♭ (I)
C.E.
17
F9 (II)
B♭7 (II)
E♭9 (II)
B♭m7 (VI) E♭9 (II)
C.E.
21
A♭ (I)
A♭m (VI)
C.E.
E♭ (I)
C.E.
Gm7 (VI) C7 ♭9 (II)
25
Fm7 (VI)
B♭7 (II)
10 T.O.
E♭ (I)
Gm7(VI) C7 (II)
29

Giant Steps

JOHN COLTRANE'S SOLO (first 32 bars)

John Coltrane's monumentally brilliant solo on his equally ingenious composition *Giant Steps* is the quintessential example of the Level of Vertical Tonal Gravity. In his *Giant Steps* solo, Coltrane epitomized the vertical approach of Coleman Hawkins.





In observing *Giant Steps,* one can see that virtually each chord's Parent [LC] Scale serves as the tonal environment for a melody that sounds the harmonic genre of the chord with one or more principal or member scale colors of that LC Scale. In this manner, a sequence of Prevailing Chord/Parent [LC] Scale Alliances, threaded by an Ingoing Vertical Melody, is created on the Level of Vertical Tonal Gravity.

In bar 3, Coltrane chooses to use the E♭ major scale, one of the four horizontal member scales of the E♭ LC Scale, to color the E♭ major chord. As you know, on the level of VTG, any of the eleven member scales of the prevailing LC Scale may be used to color the chord of the moment. His choice of the

psychologically thrusting (resolving) E♭ major scale in bar 3 may have been influenced by the psychologically thrusting (resolving) nature of the *Giant Steps* composition. In any case, it is an example of applying a horizontal scale in a vertical manner; the Lydian Chromatic Concept's term for this being a VERTICALIZED HORIZONTAL MELODY.

In bar 4, two member scales of the C [LC] Scale are used. The C Lydian Scale is used to color the A minor [C (VI)] chord and the C Lydian Diminished Scale to color the D^7 [C (II)] chord.

The first instance of chromatic enhancement occurs in bar 8 with the tone A♮ (representing the twelve-tone order of the A♭ LC Scale) being used to chromatically enhance an A♭ Lydian Scale melody. Chromatic enhancement occurs again in bars 13 and 14. The first example of Horizontal Tonal Gravity in this solo (as well as the text of this book) occurs in bars 17 and 18. In bar 17 and the two beats of bar 18, Coltrane's melody shifts from vertical to horizontal behavior. In the span of this small six-beat area, Coltrane establishes a tonic station area on the Level of Horizontal Tonal Gravity. He does this by briefly abandoning the vertical method of deriving a melody from the parent [LC] Scale of each chord and relates instead to the approaching G major chord in bar 18 as the PREVAILING TONIC STATION of this six-beat horizontal area. (The two chords in bar 17, B major and D^7 resolve to G major as a subtonic station).[1] The G [LC] Scale becomes the logical prevailing LC Scale for this brief tonic station region. From the G [LC] Scale, the G major scale (a fitting horizontal member scale) is chosen to sound over the two chords of bar 17 and the G major chord in bar 18. Coltrane then switches back to the Level of Vertical Tonal Gravity on the $B^{\flat 7}$ chord of bar 18.

The tone D (♮) sustained over the two chords in bar 17 of *Giant Steps* is a reliable signal that Coltrane's melodic focus has shifted from vertical to the horizontal level of tonal gravity. A single tone of the melody sustained over one or more chords is always an alert that the melodic basis for the music may have changed from the Level of Vertical Tonal Gravity to the broader based Level of Horizontal Tonal Gravity or still broader level of Supra-Vertical Tonal Gravity (SVTG).

The ear always needs to link the melody with a tonal center. A pause in

1. A semi-final but not the ultimately final tonic station within a phrase. See *Giant Steps* HTG analysis in Volume II.

the Vertical Tonal Gravity melody on bar 17 of *Giant Steps* forces it to gravitate to a broader tonal center than the prevailing chord of VTG.

One might say that whenever the level of VTG ceases to feature the vertical melody sounding the harmonic genre of each individual chord, the human ear will summarily tend to gravitate to a GRAVITY CENTERING ELEMENT (GCE) broader than that of vertical tonal gravity's prevailing chord.

Supporting this shift of tonal gravity levels in bars 17 and 18 of *Giant Steps* is the semi-ingoing, nine-tone order position which the tone D♮ occupies in the B [LC] Scale, the parent LC Scale of the B maj^7 chord. The tone D♮ sounding with the B maj^7 chord may momentarily puzzle the listener's ear. However, the resolving tendency of the chords in bar 17 (B maj and D^7) directs the ear to the G major tonic station chord of bar 18. The G major scale melody sounding within this six-beat tonic station area reflects Coltrane's split-second reaction to this resolving tendency of non-finals (B maj and D^7) to a final G major.

The second instance of horizontal tonal gravity occurs in bars 28 and 29 when the two notes of the B major scale melody[1] in bar 28 naturally sound in strongest accord with the B major tonic station to which the C♯^{7} and F♯^{7} chords resolve in bar 29.

These two brief but pure examples of HORIZONTAL TONAL GRAVITY (HTG) show how the horizontally-minded musician focuses on an imminent major or minor tonic station in order to derive from its parent LC Scale a most likely horizontal member scale melody, structured to sound the major or minor genre of the approaching tonic station over one or more chords evidencing a resolving tendency to it. The chosen member (or "official") scale melody signals the identity of the approaching tonic station to the listener.

"HTG region," "HTG area," and "tonic station area" are all applicable terms for musical areas manifesting the type of tonal behavior consistent with the level of horizontal tonal gravity—the alternate way for musicians to negotiate a stream of chords.

Giant Steps is a masterful legacy to Coltrane's intellectual brilliance, intuitive perception, emotional fire and spiritual depth. Whether Coltrane was or was not influenced by the Lydian Chromatic Concept is not the reason for including the *Giant Steps* analysis in this book. Showing how completely

1. Tonic station modality is the official term for the dominant melody on the level of HTG.

a Coltrane solo (or a Bach chorale or a Ravel suite) yields to Lydian Chromatic Concept analysis is justification enough.

There can be no doubt that the Lydian Concept "put modes in the air" and was the theoretical foundation for what is commonly referred to as jazz's "modal era,"[1] which, contrary to present myth, is not over. Modes are woven into the fabric of music. They are intrinsically connected to both chords and scales—an essential part of the nature of music.

Coltrane visited my home on Bank Street in Greenwich Village at some point back around 1959-60. We spoke about the Concept at length. Coltrane played with Miles, and I think that anyone who played with Miles was influenced by Miles and, through osmosis, by what had influenced Miles. The point is that the Concept was a product of a time when the drive for artistic excellence and innovation, in all the arts, was furious, exhilarating and all-consuming. *Giant Steps, Milestones,* Ornette, Cecil Taylor, and the Concept were on the cutting edge of that artistic renaissance. We still had to struggle to say our say, but it was possible for individual essences who wouldn't be denied to evolve in an environment that, however tough, stayed reasonably receptive to new impulses.

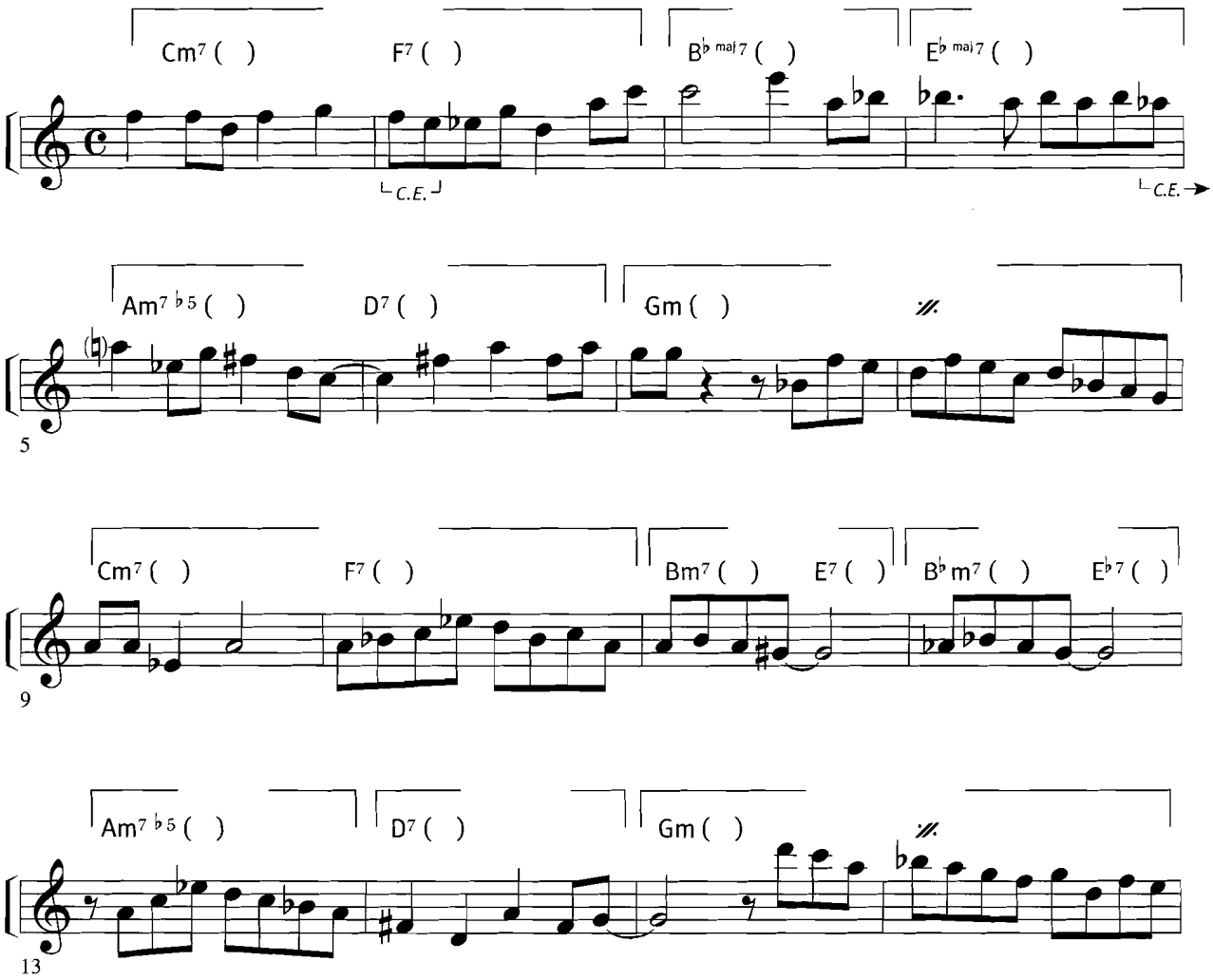
1. Additional information may be found in the following books, all by Eric Nisenson (St. Martin's Press, New York): *Round Midnight: A Portrait of Miles Davis*; *Ascension: The Life of John Coltrane*; *Blue, The Murder of Jazz*; and *The Making of Kind of Blue*. Robert Palmer's liner notes to the recording *Kind of Blue* are both profound and factual.

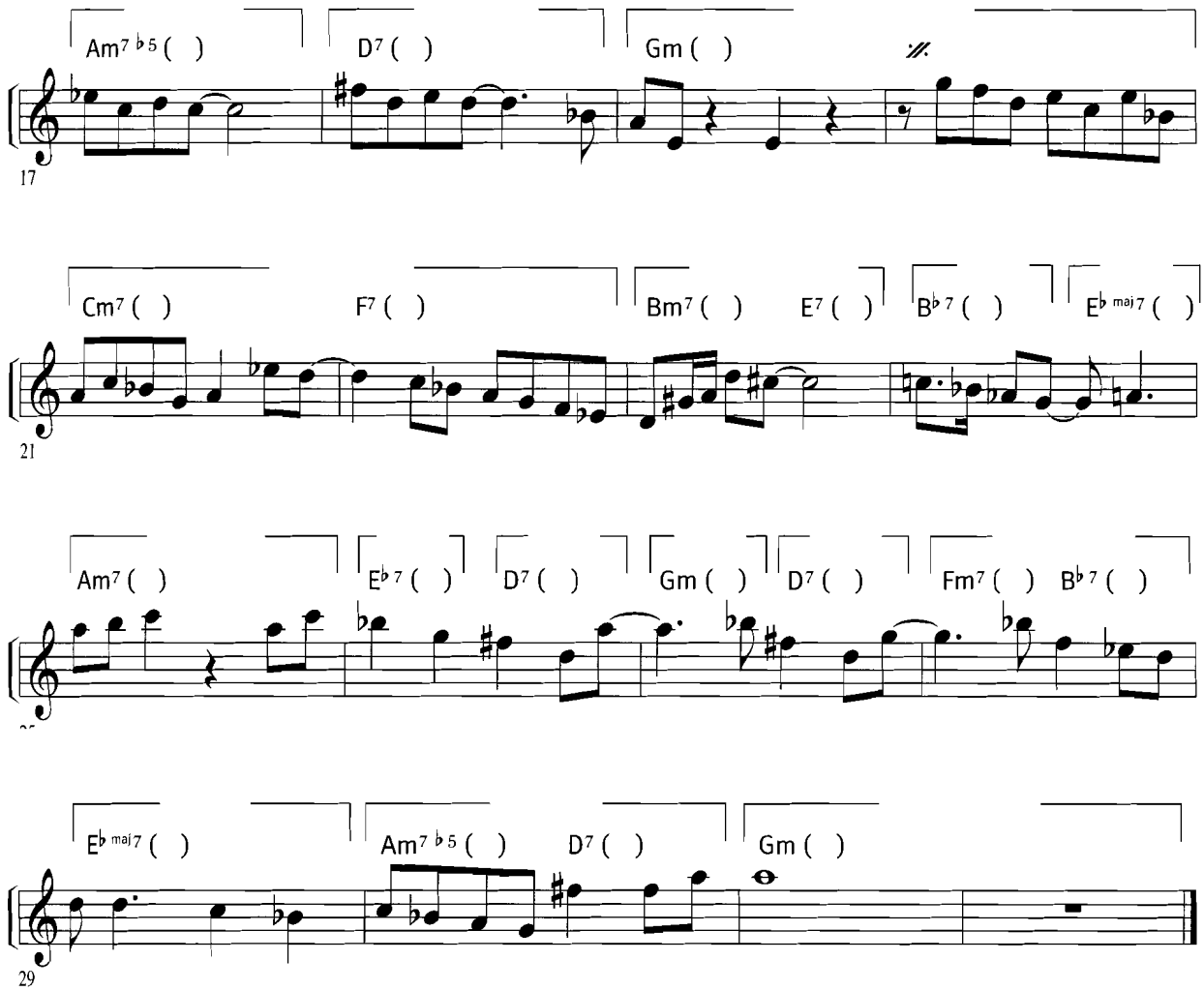
Test C

1. Analyze the following ingoing vertical melody based on the chords of *Autumn Leaves*. In the bracket above the chord, note the principal or associate member scale you believe the improviser to be using.
2. Within the parenthesis next to each chord, note the PMT indicating the position of the chord's root in its primary parent LC Scale. As you know, a chord's primary parent LC Scale has the most ingoing relationship to it.
3. When finished, check your analysis with the correct one on page 247 of the Technical Appendix.

Autumn Leaves

JOSEPH KOZMA





Test D

1. Now create your own interesting melody based on the *Autumn Leaves* chord sequence. Derive your melody from the principal scale or associate member scale of the parent LC Scale dictated by each chord. The result should be an exciting ingoing vertical melody on the level of VTG. Observe the principal features of the Level of VTG.
2. Note each chord's PMT degree roman numeral in the parenthesis next to it and identify the parent or associate member scale used in the bracket above the chord, as you've been doing so far in the text.
3. Write music that is vibrant and fresh, with the same intensity as if you're performing it live for an audience. Try to avoid having your work on these Concept tests sound like dry and pedantic exercises.

The Prevailing Chord as the
VERTICAL TONAL GRAVITY CENTERING ELEMENT
(VTGCE) for the Level of Vertical Tonal Gravity

The attention of the musician on the Level of VTG is centered virtually on each chord as the GCE base for a Prevailing Chord/Parent LC Scale alliance from which a melody can be derived that is structured to sound the vertical identity (or vertical color) of that prevailing chord in the manner prescribed by the law of VTG. The prevailing chord *is* the gravity centering element for the level of vertical tonal gravity. It can be rightfully designated as the VTGCE, the "access button" offering to the vertically-conscious musician the complete tonal organization of its parent LC Scale as the most natural tonal environment for the creation of an ACTIVE VERTICAL MELODY, a melody that most forcefully and beautifully projects the essence of the prevailing chord.

A Prevailing Chordmode/Parent LC Scale alliance (VTG alliance) remains passive and inert until activated by an active (several-note) vertical melody, derived from its parent LC Scale and structured to sound an essentially ingoing identity with the harmonic genre of its prevailing chordmode (GCE) for the duration of the VTG alliance.

The sounding of an active vertical melody officially establishes the Parent LC Scale of a VTG Alliance as the Prevailing LC Scale for the period of duration of that alliance. In other words, the prevailing chordmode, on the level of VTG, invites its parent LC Scale to join in the formation of a PREVAILING CHORDMODE/PARENT LC SCALE ALLIANCE from which an active vertical melody is created to sound the prevailing chord and thereby officially establish its parent LC Scale as the prevailing LC Scale for the period of duration of this VTG Alliance.

When this information is understood thoroughly, one can then experience the Level of VTG as the state of Prevailing VTGCE/Parent LC Scale alliances or simply the state of Vertical Tonal Gravity alliances.

Whether it is Coltrane's *Giant Steps* solo, Bach's *Chromatic Fantasy and Fugue*, Ravel's *Forlane,* or Hank Mobley's solo on *Stella by Starlight,* the Level of VTG always consists of a sequence of prevailing chord/Parent LC Scale alliances in relation to whatever style of music is manifesting it.

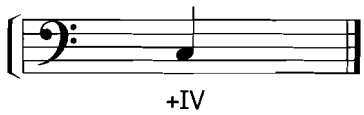
CHAPTER VI

Alternate and Conceptual Parent LC Scale Choices for Chords

To the left of each of the eight Primary Modal Genres (PMG) listed on Chart A is a roman numeral. This represents the corresponding Primary Modal Tonic (PMT) degree for a PMG. These Primary Modal Tonic (PMT) degrees always provide the most ingoing parent scale choice for a chord.

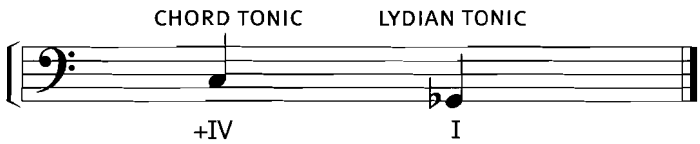
For example, C min$^{7\,\flat5}$ is found primarily on PMT +IV of its parent Lydian Chromatic Scale. Its primary chord category is therefore PMG +IV min$^{7\,\flat5}$/ major +4B of the LC Scale. This means that C, the tonic of the chord, rests on the +IV degree of its parent scale:

EXAMPLE VI:1



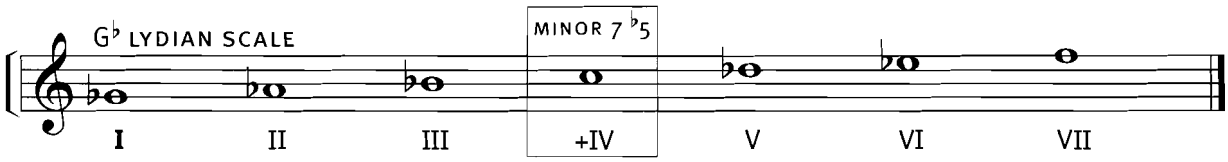
The Lydian Tonic of the C min$^{7\,\flat5}$ chord's parent scale is found by thinking down an interval of an augmented 4th from the tonic of the chord:

EXAMPLE VI:2



The Lydian Tonic is G♭. Therefore, G♭ Lydian Chromatic is the parent LC Scale for the C min$^{7\,\flat5}$ chord. The Lydian Scale is the first in Chart A's descending order of Principal Scales to produce the C min$^{7\,\flat5}$ on its +IV scale degree. The parent scale of the C min$^{7\,\flat5}$ chord is therefore the G♭ Lydian Scale.

EXAMPLE VI:3



The C min$^{7\,\flat5}$ chord exists *primarily* on the +IV scale degree of the G♭ Lydian Scale. Of course, other member scales of the G♭ Lydian Chromatic Scale may be used as sources of melodic color with the C min$^{7\,\flat5}$ chord. This bond formed between the C min$^{7\,\flat5}$ chord and the G♭ LC Scale represents the most ingoing tonal environment from which the musician may derive a vertical melody (or harmony) to sound with the C min$^{7\,\flat5}$ chord.

In addition to the eight Primary Modal Genres of the LC Scale and their respective Primary Modal Tonic degrees, Chart A also lists smaller roman numerals to the right of certain PMG. These are referred to on Chart A as Alternate and Conceptual Modal Genres. Alternate Modal Tonic degrees function as modal tonic roots for alternate chords (ALTERNATE MODAL GENRE), while conceptual modal tonic degrees function as modal tonic roots for conceptual chords (CONCEPTUAL MODAL GENRE). AMG and CMG may serve as abbreviations for these two types. The present discussion will center first on alternate modal tonic degrees. Conceptual Modal Tonic degrees will be the focus of attention later in this chapter.

Alternate Modal Tonic Degrees

When substituted for a prevailing chord's PMT root, the AMT degree usually refers the prevailing chord to a more outgoing Alternate Parent LC Scale. The AMT degree converts a chord's Primary Parent [LC] Scale to the Alternate Parent [LC] Scale indicated by the AMT degree's roman numeral.[1] This AMT effected conversion of a prevailing chord's Primary Parent [LC] Scale occurs without changing the pitch of that chord's root or fundamental (chord defining) tones. Consequently, the status of the prevailing chord as such is maintained within the context of the newly created VTG alliance between the prevailing chord and its Alternate Parent [LC] Scale.[2]

1. Exceptions to this will be discussed in due course.
2. Prevailing Chord/Alternate Parent [LC] Scale Alliance.

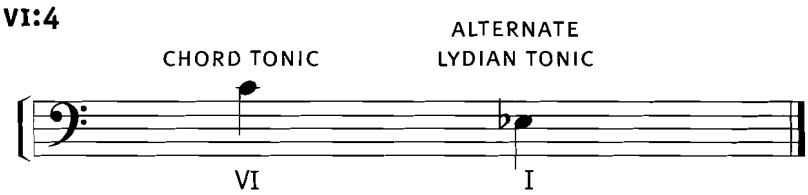
In addition to the exchange of Parent LC Scales, the AMT designation process can effect a change of other elements. These possible changes are as follows:

1. the status of the prevailing chord is converted from PMG to AMG;
2. the position of the prevailing chord's modal tonic degree is converted to that indicated by the AMT degree roman numeral.

The consequence of these conversions is that, while its fundamental tones remain intact, the prevailing chord is placed in an interesting, though more remote, tonal environment.

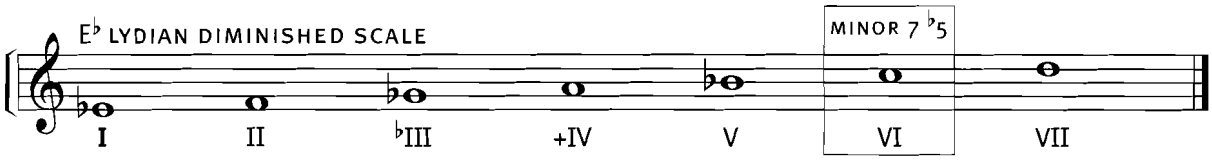
It must be understood by now that roman numeral VI stands for the PMT degree position of the LC Scale's minor/altered minor Primary Modal Genre. Nevertheless, noted to the right of the minor$^{7\,\flat5}$/major +IVB PMG on Chart A is AMT degree VI. This means that the root of a C min$^{7\,\flat5}$ chord (C♮) can alternately be regarded as resting on the sixth degree of an Alternate Parent [LC] Scale. Thinking down an interval of a 6th from C, the Lydian Tonic (E♭) indicates the E♭ LC Scale as an Alternate Parent [LC] Scale for the AMT degree VI designated C min$^{7\,\flat5}$ chord.

EXAMPLE VI:4



In the descending order of Chart A Principal Scales, the first to produce a minor$^{7\,\flat5}$ chord on its VIth scale degree is the Lydian Diminished Scale. Therefore, if alternate modal tonic degree VI is chosen for the C min$^{7\,\flat5}$ chord, the corresponding Alternate Parent Scale is E♭ Lydian Diminished.

EXAMPLE VI:5



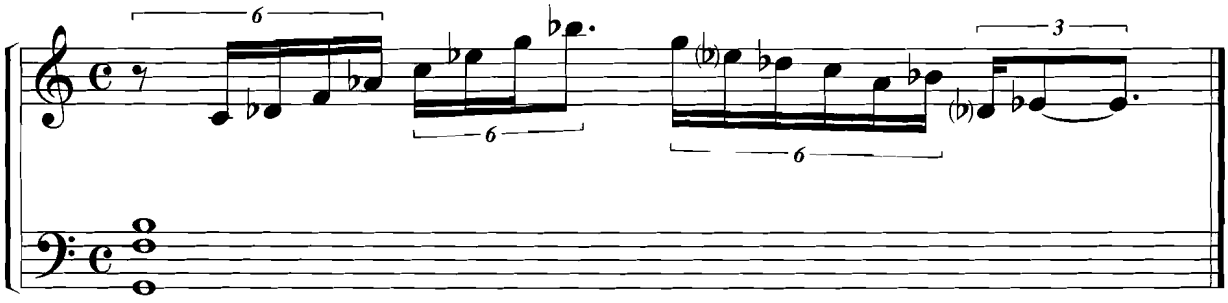
Again, any member scale of the E♭ LC Scale may be substituted for, or used along with, the alternate parent scale, especially the E♭ auxiliary diminished and E♭ auxiliary diminished blues scale.

Within the span of a Prevailing Chord/Alternate Parent [LC] Scale Alliance, all melodic and harmonic development must be reconciled with the Alternate Parent [LC] Scale of that alliance for the period of its duration. This includes all melodic and harmonic exposition. For the C min$^{7\,\flat5}$ chord manifesting within the context of the E♭ LC Scale, this means that the latter serves as the alternate tonal environment whose tonal resources are being used to imaginatively express the melodic and harmonic genre of the C min$^{7\,\flat5}$ chord for the period of its duration.[1]

Let's now consider a G^7 to be the prevailing chord. Its root tone, G♮, lies primarily on PMT II of the F Lydian [LC] Scale. If the tone G♮ is considered to lie on alternate modal tonic degree (+IV) of the LC Scale, then D♭ becomes the alternate Lydian Tonic of a G^7/D♭ Lydian [LC] Scale Alliance (Alternate VTG Alliance). The chord (G^7 in this case) remains the same, but its Parent LC Scale is converted and its PMG is slightly modified. Although it is still a 7th chord, the G (+IV) seventh chord takes on the quality of the (+IV) minor$^{7\,\flat5}$ PMG of the LC Scale, resulting in a somewhat more outgoing[2] sounding G^7 chord.

EXAMPLE VI:6

G^7 (+IV)/D♭ LC Scale Alliance—Alternate VTG Alliance



Five Principal Scales of the D♭ LC Scale—all containing the modal tonic (G) of the G^7 chord—produce a more altered type of seventh chord on their +IV scale degree. Three of these are listed on the next page. This qualifies the D♭ LC Scale (and any of its member scales) to be employed as an alternate parent LC Scale for the G^7 chord.

1. See the "Law of Vertical Tonal Gravity," Chapter V, page 90.
2. INGOING TO OUTGOING rather than CONSONANT/DISSONANT is the objective and natural idea governing the development of the Lydian Chromatic Concept of Tonal Organization.

EXAMPLE VI:7

1. D♭ LYDIAN FLAT 7TH SCALE

			SEVENTH ♭5 ♭9 +5			
D♭	E♭	F	G	A♭	B♭	C♭
I	II	III	+IV	V	VI	♭VII

2. D♭ AUXILIARY AUGMENTED SCALE

			NINTH ♭5 +5		
D♭	E♭	F	G	A	B
I	II	III	+IV	+V	♭VII

3. D♭ AUXILIARY DIMINISHED BLUES SCALE

				THIRTEENTH ♭5 ♭9 +9			
D♭	D♮	E	F	G	A♭	B♭	C♭
I	♭II	♭III	III	+IV	V	VI	♭VII

The altered seventh chords found on the +IV degree of these three scales all feature a flatted 5th flavor, a sound characteristic of the +IV minor 7th(♭5)/ major +4B Primary Modal Genre of the LC Scale.

Remember that once an Alternate Parent LC Scale is assigned to the prevailing chord, all melodic and harmonic development must be reconciled with that scale for the duration of its VTG Alliance with the G^7 chord.

If AMT +V (instead of PMT II) is assigned to the root of a G^7 chord, the root tone of the chord, G♮, becomes the +V degree of that chord's Alternate Parent [LC] Scale. The B [LC] Scale is therefore the Alternate Parent [LC] Scale for the G^7 chord as an AMT +V chord.

Three Principal Scales of the B [LC] Scale produce a type of seventh chord on their +V degree:

EXAMPLE VI:8

1. B LYDIAN AUGMENTED SCALE

				SEVENTH ♭5 ♭9 +5 +9		
B	C♯	D♯	E♯	G	G♯	A♯
I	II	III	+IV	+V	VI	VII

2. B AUXILIARY AUGMENTED SCALE

				NINTH +5 +11	
B	C♯	D♯	F	G	A
I	II	III	+IV	+V	♭VII

3. B AUXILIARY DIMINISHED SCALE

					SEVENTH +9 ♭9 +11		
B	C♯	D	E	F	G	G♯	A♯
I	II	♭III	IV	+IV	+V	VI	VII

Any member scale of the B [LC] Scale may be tried in coloring the G^7 chord with the understanding that a more remote degree of vertical chord-scale unity will probably be the result.

Applying AMT degree VII to the G^7 chord yields A♭ as another alternate Lydian Tonic. Four Principal Scales produce altered versions of a G^7 chord on their VII degree, thereby qualifying the A♭ LC Scale as another possible Alternate Parent [LC] Scale choice for the G^7 chord.

EXAMPLE VI:9

1. A♭ LYDIAN SCALE

						ELEVENTH ♭9 +9 +5
A♭	B♭	C	D	E♭	F	G
I	II	III	+IV	V	VI	VII

2. A♭ LYDIAN AUGMENTED SCALE

						ELEVENTH ♭9 +9
A♭	B♭	C	D	E	F	G
I	II	III	+IV	+V	VI	VII

3. A♭ LYDIAN DIMINISHED SCALE

						SEVENTH ♭9 +9 +5
A♭	B♭	C♭	D	E♭	F	G
I	II	♭III	+IV	V	VI	VII

4. A♭ AUXILIARY DIMINISHED SCALE

							SEVENTH ♭9 +9 ♭5
A♭	B♭	C♭	D♭	D♮	E	F	G
I	II	♭III	IV	+IV	+V	VI	VII

The seventh chords produced on AMT VII by these four scales possess a ♭9 characteristic, a sound indigenous to the VII major^{7B}/$^{11\,\flat 9}$ Primary Modal Genre, for the aforementioned reasons. Based on A♭ as the alternate Lydian Tonic, one is free to use any member scale of the A♭ LC Scale in a vertical manner along with the G^7 chord.

Finally, if the root of the G^7 chord is employed as AMT degree I, G becomes the alternate Lydian Tonic. Chart A lists certain Principal Scales which produce tonical major/altered major chords containing a ♭7 degree. Therefore, the LC Scale located on the root (tonic) of any 7th chord is qualified as another possible Alternate Parent LC Scale choice for any chord belonging primarily to the II 7th/altered 7th chord category.

EXAMPLE VI:10

1. G LYDIAN FLAT 7TH SCALE

MAJOR ♭7						
G	A	B	C♯	D	E	F
I	II	III	+IV	V	VI	♭VII

2. G AFRICAN-AMERICAN BLUES / MAJOR FLAT 7TH SCALE

MAJOR ♭7									
G	(A)	B♭	B♮	C	C♯	D	E	F	(F♯)
I	II	♭III	III	IV	+IV	V	VI	♭VII	VII

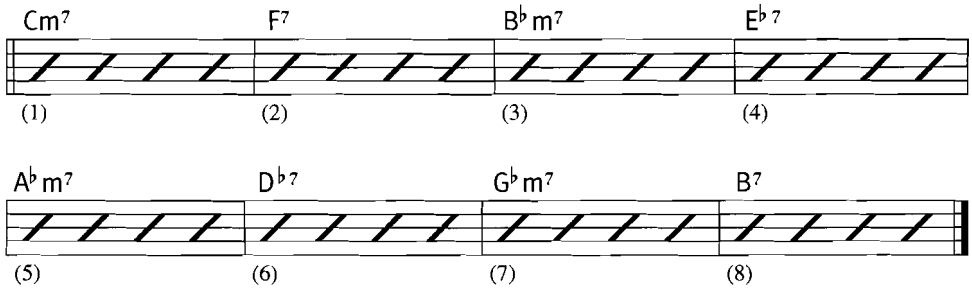
3. G AUXILIARY DIMINISHED BLUES SCALE

SEVENTH +11 ♭9 +9							
G	A♭	B♭	B♮	C♯	D	E	F
I	♭II	♭III	III	+IV	V	VI	♭VII

Here, the tonical quality of a G major triad is emphasized, because the G^7 chord is placed into the I major/altered major PMG of the G LC Scale where it sounds as a G (I) major ♭7th chord.

Commonly found in many jazz compositions are the VI minor/altered minor and II 7th/altered 7th Primary Modal Genre of the same parent LC Scale. The chord progression in the following study (see example on the top of the next page) is called a "cycle of fifths"; each chord resolves to a chord an interval of a 5th below.

EXAMPLE VI:11



Primary or Alternate Parent Scale choices for the first four bars could be the following:

BAR 1
- CHORD = C min7
- PMG = VI minor/altered minor
- ALTERNATE OR PMT DEGREE = +IV
- LYDIAN TONIC = G♭
- ALTERNATE PARENT AND/OR ASSOCIATE SCALE(S) = G♭ Lydian Augmented

BAR 2
- CHORD = F7
- PMG = II 7th/altered 7th
- ALTERNATE OR PMT DEGREE = VII
- LYDIAN TONIC = G♭
- ALTERNATE PARENT AND/OR ASSOCIATE SCALE(S) = G♭ Auxiliary diminished

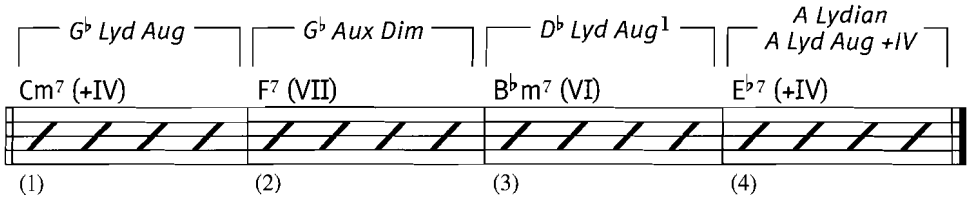
BAR 3
- CHORD = B♭ min7
- PMG = VI minor/altered minor
- ALTERNATE OR PMT DEGREE = VI
- LYDIAN TONIC = D♭
- ALTERNATE PARENT AND/OR ASSOCIATE SCALE(S) = D♭ Lydian Augmented

BAR 4
- CHORD = E♭7
- PMG = II 7th/altered 7th
- ALTERNATE OR PMT DEGREE = +IV [1]
- LYDIAN TONIC = A
- ALTERNATE PARENT AND/OR ASSOCIATE SCALE(S) = A Lydian and A Lyd Aug

1. The following Principal Scales produce a type of seventh chord on their augmented fourth degree: Lydian, Lydian Augmented, Lydian Flat 7th, auxiliary augmented and auxiliary diminished blues.

The scale choices for the first four bars are listed above their respective chords. Each chord and its parent [LC] Scale forms a Prevailing Chord-mode/Parent LC Scale Alliance on the Level of Vertical Tonal Gravity.

EXAMPLE VI:12



Notice that the chords in bars 1 and 2, although employing different scale colors, have quite the same Lydian Chromatic Scale. One may form a general rule about this: whenever a minor chord is followed by a 7th chord a 5th below, one LC Scale may be retained by assigning the +IV AMT degree to the minor chord and the VII AMT degree to the 7th chord. This is also the case when the VI scale degree is assigned to the minor chord, and the II scale degree to the following 7th chord a 5th below.

Test A

Finish choosing primary or alternate parent scales for bars 5 through 8 of Example VI:11. List your chosen scale above the chord, and place the alternate or primary modal tonic scale degree which dictated the choice to the right of the chord as shown in Example VI:12. Then improvise or compose vertical melodies using your choices in the entire 8 bar progression.

Test B

Fill in primary or alternate parent [LC] Scales for the "cycle of fifths" progression in Example VI:13 on the top of the next page. The parent LC Scale for each chord is dictated by the scale degree listed next to the chord. This example uses the following Primary Modal Genre: 7th/altered 7th, minor$^{7\,\flat5}$, minor/altered minor and 7th^{+5}. Compose or improvise a vertical melody along with the chord progression.

1. The B♭ minor chord in bar 3 of Example VI:12 forms a Prevailing Chord/Parent [LC] Scale Alliance with the scale of choice (D♭ Lyd Aug) selected from among those belonging to its primary parent LC Scale: the D♭ LC Scale.

NOTE TO PIANISTS: When playing a scale against a minor chord, it is only necessary to play the tonic and minor 7th (or minor 6th) degrees of the chord in the left hand. The tonic and seventh degrees of a 7th chord are all that is necessary, as well. Allow the scales of the solo (in the right hand) to express the vertical coloring of chords.

EXAMPLE VI:13

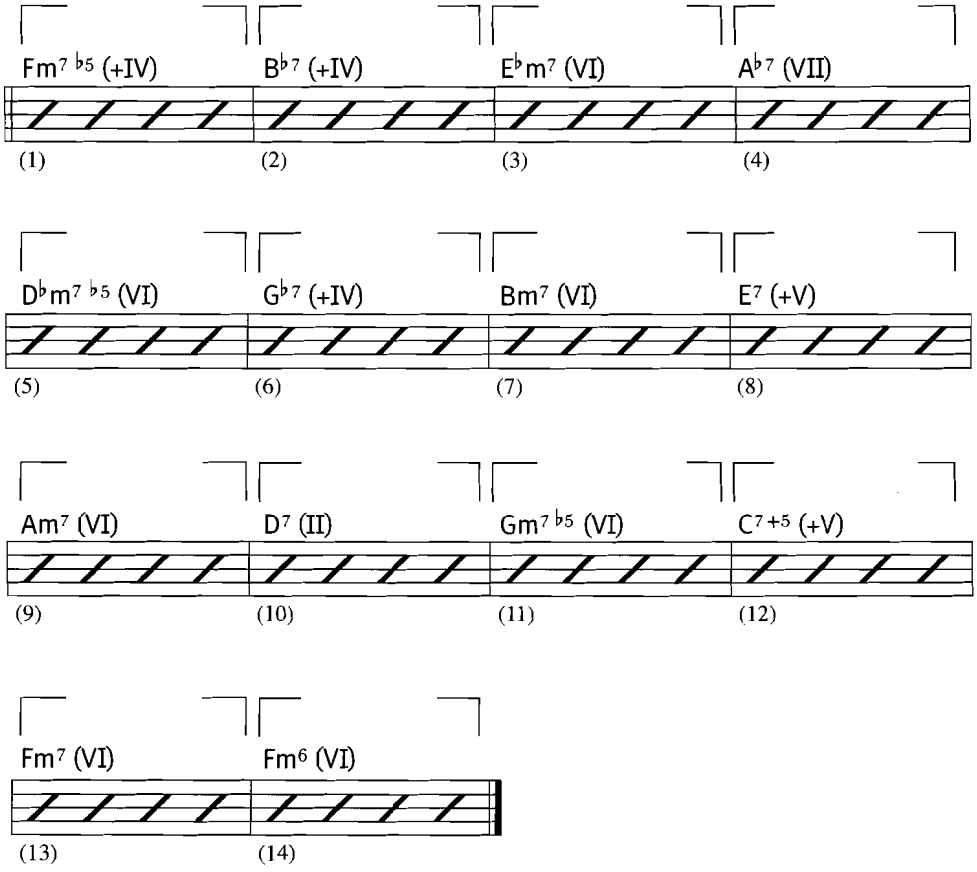


Chart A represents a single Lydian Chromatic Scale. It can be any one of the twelve LC Scales which constitute the Lydian Chromatic Concept of Tonal Organization in its entirety. Each LC Scale contains seven Principal Scales whose chief purpose is the creation of the eight PMG (chordmode families) on the eight Primary Modal Tonic degrees of an LC Scale.

The LC Scale's primary chordmode resources (ingoing tonal resources) are its eight PMG. They are the foundation of its tonal organization and represent the fundamental harmonic colors of its tonal spectrum. These eight

PMG are the most ingoing, and therefore, the *primary class* of the LC Scale's chordmodes.

Alternate and Conceptual Modal Genres (AMG/CMG) are slightly less ingoing and therefore constitute a *less ingoing class* of an LC Scale's ingoing tonal resources. They are a privileged class amongst the LC Scale's general body of SECONDARY MODAL GENRES.[1] Their special status is earned because of their capacity to convert the Prevailing PMG/Parent LC Scale Alliance to an AMG/Alternate Parent LC Scale Alliance or CMG/Conceptual Parent LC Scale Alliance. The larger body of Secondary Modal Genres (SMG), lacking this capacity to convert PMG/Parent LC Scale Alliances, manifests completely within the context of the prevailing chord's Primary Parent [LC] Scale. Relating to either Alternate or Conceptual Modal Tonic degrees produces the corresponding type of Alternate or Conceptual Modal Genre/Parent [LC] Scale Alliance on the Level of Vertical Tonal Gravity.

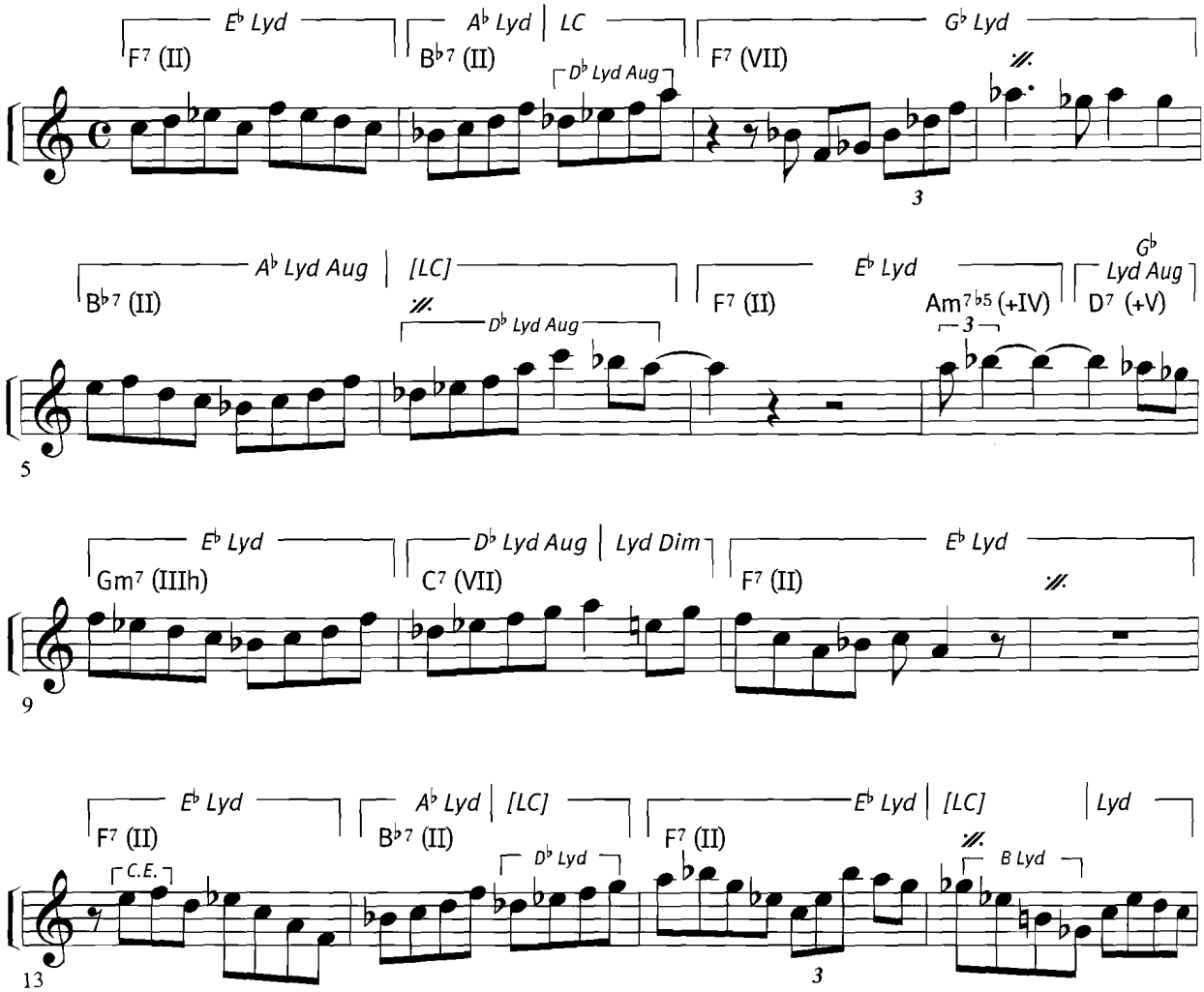
1. Secondary modal genres of the LC Scale are basically any chordmode of any LC Scale manifesting within the prevailing LC Scale as an expression of its tonal levels.

John Coltrane's solo on Thelonious Monk's *Straight No Chaser* is an excellent example showing the use of Alternate, Conceptual and Secondary Modal Genres[1] on the Level of Vertical Tonal Gravity.

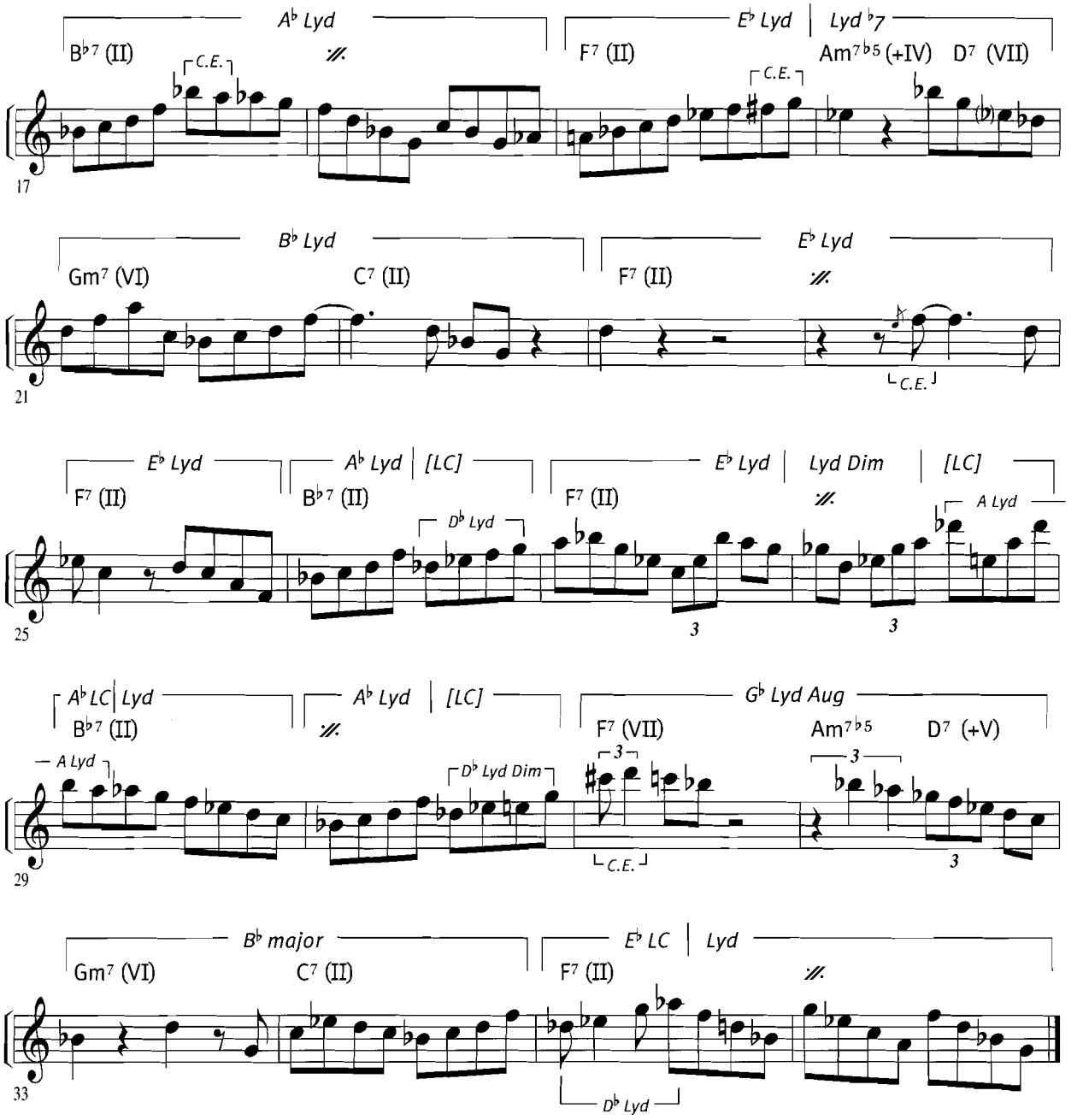
Straight No Chaser

THELONIOUS MONK

JOHN COLTRANE'S SOLO (first 36 bars)



1. Coltrane sounds secondary modal genres within VTG alliances prevailing in bars 2, 6, 14, 16, 26, 28, 29, 30 and 35 of his solo. These are discussed later in this chapter.



Bars 3, 4 and all of bar 10 in Coltrane's solo represent excellent examples of AMG/Alternate Parent LC Scale Alliances. Viewed from the perspective of the LC Concept, Coltrane is treating the tone F♮ (the tonic of the F^7 prevailing chordmode in bars 3 and 4 of the solo) as an AMT degree VII listed within the PMT II Seventh/Altered Seventh Chord PMG on Chart A.

The tone F♮ lies on the major seventh degree of the G♭ LC Scale, from

which Coltrane chooses the G♭ Lydian Scale to color the F^7 chord. In other words, the imposition of AMT degree VII on the F♮ PMT of the F^7 chord converts that chord's Parent [LC] Scale from the E♭ Lydian [LC] Scale to that of the G♭ Lydian [LC] Scale wherein the F^7 chord takes on the harmonic genre imposed by an $F^{11\ \flat 9}$/G♭ LC Scale Alliance (PMG VII on Chart A).

In bar 10, C^7 is the prevailing chord. However, instead of placing it in its most familiar tonal environment—the B♭ Lydian [LC] Scale, indicated by identifying the root of the chord (C♮) with PMT II—fragments of two principal scales of the D♭ LC Scale (D♭ Lydian augmented and Lydian diminished) are used. These are obtained by imposing AMT degree VII on the C modal tonic of the C^7 chord.

The AMT degree VII roman numeral listed within the PMG II Seventh/Altered Seventh category on Chart A again converts the most ingoing Parent LC Scale choice for the C^7 chord (the B♭ Lydian Scale) into a more remote alternate parent LC Scale, the D♭ LC Scale, thereby forming a C^7/D♭ LC Scale Alliance.

Conceptual Modal Genres of the LC Scale

The four Conceptual Modal Genres (CMGs) of the LC Scale are introduced by the Lydian Scale, the seminal scale of the LCCOTO. The Lydian Scale produces major triads on degrees V and II, and minor triads on degrees III and VII. These are in addition to its I major triad and VI minor triad.

The letter "h" following these roman numerals (as in Vh, IIh, IIIh and VIIh) indicates their status as conceptual modal tonic degrees of the Lydian Scale.[1] Chart A lists conceptual modal tonic degrees with the I major/altered major, VI minor/altered minor, II seventh/altered seventh Primary Modal Genre, as well as with the III (I) major 3B and V (I) major 5B Primary Modal Genre of the LC Scale.

Modes V, II, III, and VII of the Lydian Scale serve in a dual capacity. While sounding in the vertical state of chord/scale unity with the vertical (principal) chord existing on their PMT, modes III, V, II and VII of the Lydian Scale also sound in the horizontal state of *resolving* to the conceptual major or minor triad stationed on these same modal tonic degrees.

1. h = Horizontal state of the LC Scale: duality of non-final to final
   v = Vertical state of the LC Scale: unity of chord and scale

It should be noted that the four conceptual major and minor triads of the Lydian Scale belong primarily to Lydian Scales lying in a sharp direction. For example, within the C Lydian Scale, the IIIh minor triad (E min) and Vh major triad (G major) belong primarily to the G Lydian Scale, one fifth in a sharp direction from C Lydian. The VIIh minor triad (B min) and IIh major triad (D major) of the C Lydian Scale are principally the VI minor triad and I major triad, respectively, of the D Lydian Scale, two 5ths in a sharp direction from C Lydian.

The manifestation of these four sharp-related major and minor triads within a flat-lying Lydian Scale is responsible for the horizontal state in which they and their corresponding modes (V, III, II, or VII) exist within the Lydian Scale. They represent horizontal states of the Lydian Scale, the seminal vertical scale of the Lydian Chromatic Concept.

The fact that the four sharp-lying triads exist as horizontal chordmodes within the Lydian Scale accounts for the essential contribution made by these triads to the tonal organization of the LC Scale, and consequently for their being termed Conceptual Modal Genre of the LC Scale.

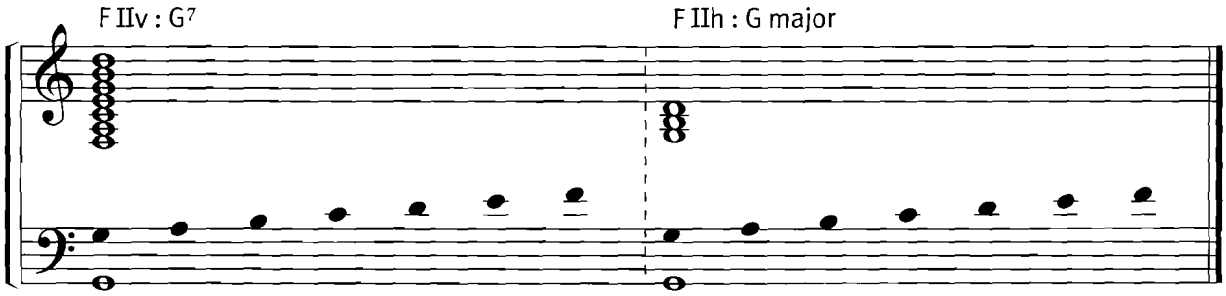
One might perceive modes III, V, II and VII of the Lydian Scale to have a split personality— a vertical state (noted by the letter v) and a horizontal state (noted by the letter h). Each of these four modes of the Lydian Scale manifests a vertical PMG and a horizontal Conceptual Modal Genre.

EXAMPLE VI:14

F LYDIAN SCALE MODE II : G A B C D E F

(The Lydian Scale's Dual State Mixolydian Mode)

PRINCIPAL CHORDMODE	CONCEPTUAL CHORDMODE
(vertical state)	*(horizontal state)*
IIv^{7} PMG	IIh major$^{\flat 7}$ CMG



G^{7}	G maj
G^{9}	G maj$^{\flat 7}$
G^{11}	G maj$^{\flat 7}$ (^{9}, ^{11}, ^{13})
G^{13}	

The F Lydian Scale's dual state Mixolydian mode II exists both in the vertical state of chord/scale unity with its F IIv^{7} chordmode (F$^{7\ 9/11/13}$), and in the horizontal state of resolving to its F IIh conceptual chordmode (G maj). In its horizontal state, the tonical quality of the mode II major triad is stressed, (G maj, in this example).

EXAMPLE VI:15

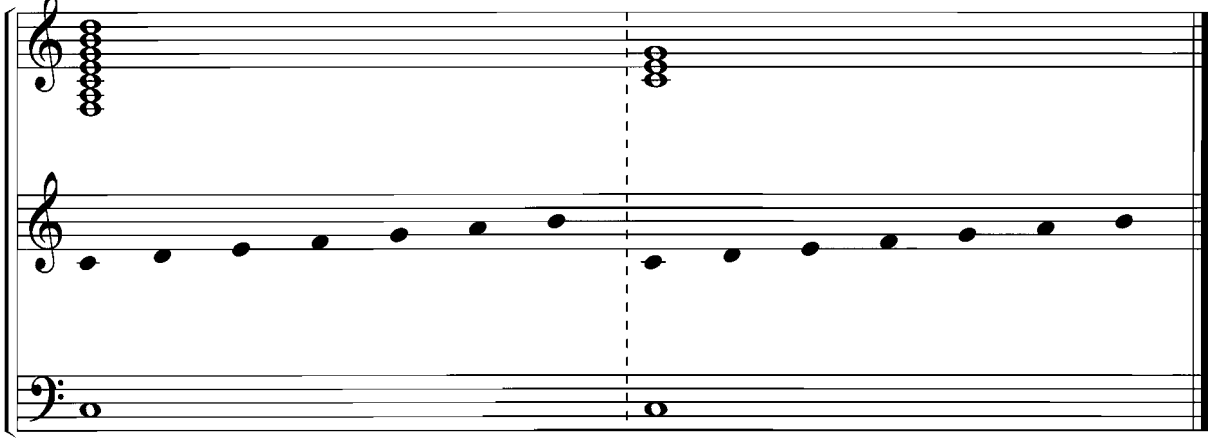
F LYDIAN SCALE MODE V : C D E F G A B

(The Lydian Scale's Dual State Ionian Mode)

PRINCIPAL CHORDMODE	CONCEPTUAL CHORDMODE
(vertical state)	*(horizontal state)*
Vv major 5B PMG	Vh major CMG

F Vv : F major 5B

F Vh : C major



F major triad 5B	C major triad
F major 6th 5B	C major 6th
F major 7th 5B	C major 7th
F major 9th 5B	C major 9th
F major 9th +11 5B	
F major ♭5 5B	

The F Lydian Scale's dual state Ionian mode V exists in the vertical state of chord/scale unity with its F Vv/I major 5B chordmode (F maj 5B), and in the horizontal state of resolving to its F Vh conceptual chordmode (C maj). In this horizontal state, the tonical quality of the mode V major triad is stressed, (C major, in this example).

EXAMPLE VI:16

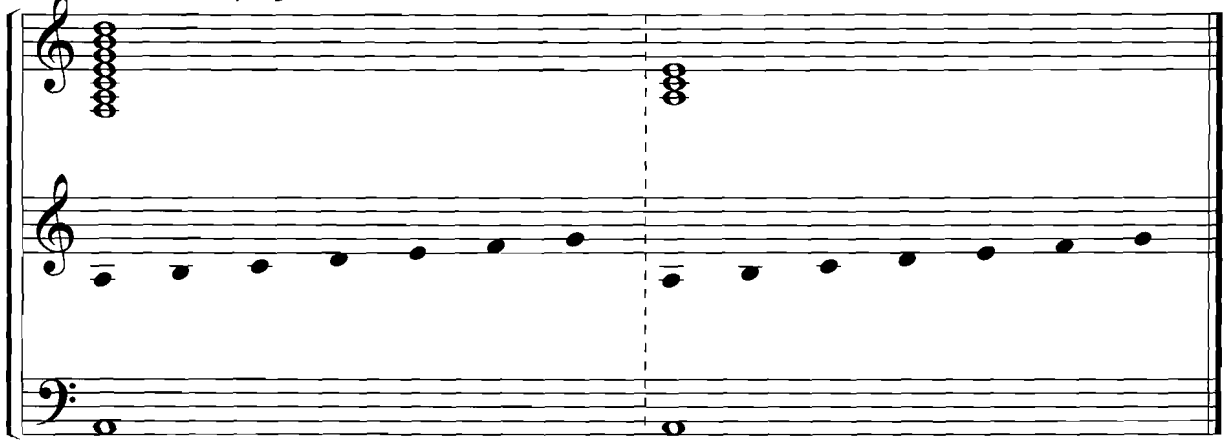
F LYDIAN SCALE MODE III : A B C D E F G

(The Lydian Scale's Dual State Aeolian Mode)

Principal Chordmode	Conceptual Chordmode
(vertical state)	*(horizontal state)*
IIIv major 3B PMG	IIIh minor CMG
(minor +5)	

F IIIv : F major 3B

F IIIh : a minor



F major triad 3B	A minor triad
F major 6th 3B	A minor 7th
F major 7th 3B	A minor 9th
F major 9th 3B	A minor 11th
F major 9th +11 3B	
F major ♭5 3B	
A minor +5	

The F Lydian Scale's dual state Aeolian mode III exists in the vertical state of chord/scale unity with its F IIIv/I major 3B chordmode (F major 3B), and in the horizontal state of resolving to its F IIIh conceptual chordmode (A minor). In its horizontal state, the tonical quality of the mode III minor triad is stressed (A minor, in this example).

EXAMPLE VI:17

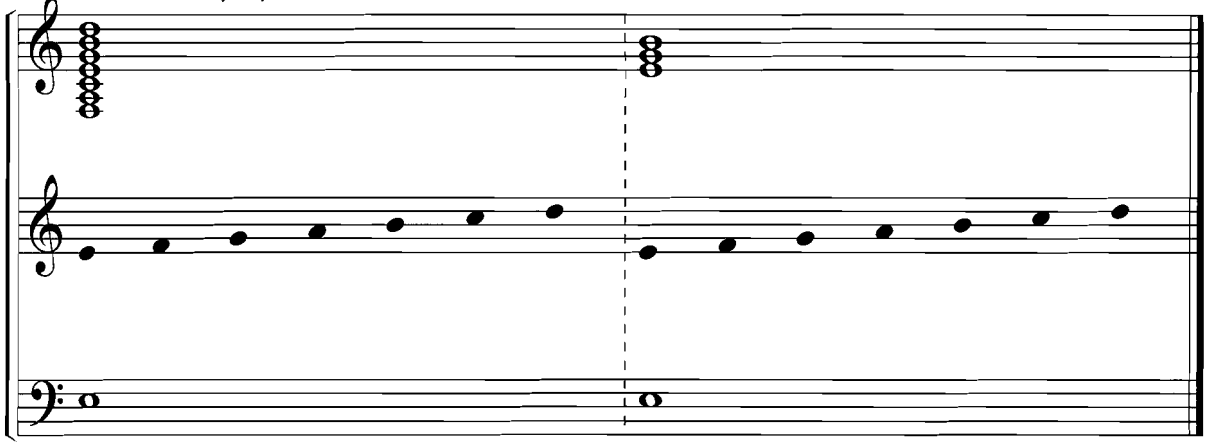
F LYDIAN SCALE MODE VII : E F G A B C D

(The Lydian Scale's Dual State Phrygian Mode)

Principal Chordmode	Conceptual Chordmode
(vertical state)	*(horizontal state)*
VIIv major 7B PMG	VIIh minor CMG
(11th ♭9)	

F VIIv : F major 7B

F VIIh : E minor



F major triad 7B
F major 6th 7B
F major 7th 7B
F major 9th 7B
F major 9th +11 7B
F major ♭5 7B
E 11th ♭9

E minor triad
E minor 7th

The F Lydian Scale's dual state Phrygian mode VII exists in the vertical state of chord/scale unity with its F VIIv/I major 7B chordmode (F maj 7B), and in the horizontal state of resolving to its F VIIh conceptual chordmode (E min). In this horizontal state, the tonical quality of the mode VII minor triad is stressed, (E minor, in this example).

As previously stated, the F Lydian Scale's dual state Mixolydian mode II exists in the vertical state of chord/scale unity in relation to its F IIv

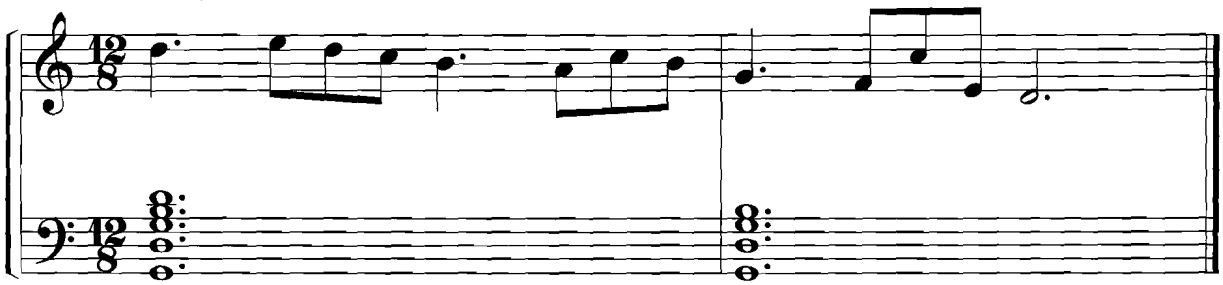
7th/altered 7th (PMG) chordmode ($G^{7\ (9/11/13)}$ in Example VI:14), and in the horizontal state of resolving to its F IIh conceptual (CMG) chordmode (G major triad). Naturally, in this latter state, the tonical quality of the mode II G major triad is stressed. One might think of mode II of the Lydian Scale in its horizontal state as the *Norwegian Wood* mode:

EXAMPLE VI:18

Norwegian Wood

LENNON-MCCARTNEY

F IIh major$^{\flat 7}$ mode



The IIh major$^{\flat 7}$ mode is an old Celtic mode, commonly used in the music of Brittany, Wales, Western Ireland, and the Scottish Highlands.

Any of the LC Scale's four Conceptual Chordmodes may function as the Prevailing Chordmode of a Prevailing Chordmode/Parent LC Scale Alliance on the Level of VTG. Such melodies are viewed as VERTICALIZED HORIZONTAL CHORDMODES. This applies to any horizontal scale used in a VTG context.[1]

A Conceptual Modal Tonic (CMT)[2] degree roman numeral can be substituted for the PMT degree of any PMG that lists it on Chart A. The effect of this action is the conversion of that PMG and its parent [LC] Scale to the CMG and parent [LC] scale indicated by the CMT roman numeral. However, if the CMT and its relative (Chart A) PMG share the same modal tonic degree roman numeral, then the only conversion will be that of the PMG to that of the CMG. The Parent [LC] Scale will remain the same.

1. See Bach's *Chromatic Fantasy & Fugue*, Chapter VII, page 168, bar 1/beat 2; Coltrane's *Giant Steps*, Chapter V, page 95, bar 3.
2. Abbreviations for terms:

AMT: Alternate Modal Tonic Degrees
AMG: Alternate Modal Genre
CMT: Conceptual Modal Tonic Degrees
CMG: Conceptual Modal Genre

For example, in bars 1, 11, and 19 of the *Straight, No Chaser* solo, Coltrane might be regarded as relating to the F^7 chord as an E$^\flat$ IIh (F maj$^{\flat 7}$) CMG. The melody in these bars definitely stresses the tone F$^\natural$ in a tonical major manner, as if it were the root of an F maj$^{\flat 7}$ chord. The musician is therefore free to relate to any 7th chord in the manner of a IIh maj$^{\flat 7}$ chordmode, placing the plain II seventh chord in the conceptual mode IIh context of its Parent [LC] Scale, E$^\flat$ Lydian in this case.

AMT degree I is also listed within the II 7th/altered 7th chord PMG on Chart A. Choosing it for the F^7 chord places that chord in the I major/altered major chord PMG of the F [LC] Scale, making it an F maj$^{\flat 7}$ chord within an F Lydian Chromatic Scale context. For example, relating to an F^7 chord as an AMT degree I maj$^{\flat 7}$ chordmode using the F blues or major$^{\flat 7}$ scale (F, G, A, B$^\flat$, C, D, E$^\flat$) is the same as relating to it as an E$^\flat$ IIh conceptual chordmode, using an E$^\flat$ Lydian Scale based on its IIh CMT degree (F, G, A, B$^\flat$, C, D, E$^\flat$). What differentiates the two is that a conceptual modal tonic degree IIh designated to any PMG II seventh chord keeps the resulting horizontal condition within the chord's Primary (vertical) Parent LC Scale, E$^\flat$ LC Scale in this case. The aesthetic judgment of the musician must prevail in choosing which scales to relate to chords on the level of vertical tonal gravity; the Lydian Chromatic Concept of Tonal Organization simply shows the possibilities.

In bar 9 of Coltrane's solo, CMT IIIh is imposed on the root (PMT) of the G min^7 chord. G min^7 belongs primarily to the VI minor/altered minor chord PMG of the B$^\flat$ LC Scale. As Chart A shows, CMT IIIh is listed as a conceptual choice for chords belonging to the VI minor PMG. Assigning a IIIh CMT to the G minor chord places its melody within the E$^\flat$ Lydian Scale (G, the root of the chord being the third degree of the E$^\flat$ Lydian Scale).

If you wish to relate the G min^7 chord to its primary parent scale by assigning roman numeral VI (the PMT for minor chords) to the root tone G$^\natural$, the B$^\flat$ LC Scale is gained. This is the most ingoing and natural tonal environment for minor chords. However, in order to accommodate the melody in bar 9 of the Coltrane solo, the B$^\flat$ major scale—a horizontal member of the B$^\flat$ LC Scale—would have to be used. E$^\flat$ Lydian *is* B$^\flat$ major and vice versa.

Conceptual chordmodes demonstate that the Lydian Scale, the seminal scale of VTG, sounds a horizontal relationship with its mode III minor, mode V major, mode II major and mode VII minor triads. C IIIh (E min) and

C Vh (G maj) both belong in their primary vertical sense to the G Lydian [LC] Scale, as C IIh (D maj) and C VIIh (B min) belong vertically or primarily to the D Lydian [LC] Scale. Both G Lydian and D Lydian lie in a sharp direction relative to the C Lydian [LC] Scale.

The sharp lying major or minor triads situated within a flat-lying Lydian Scale (when used to support a melody derived from that LC Scale) are referred to as conceptual modal genre of the prevailing LC Scale. In other words, a condition exists in which a LC Scale may function as the prevailing parent LC Scale for any one of its sharp positioned major or minor triads.

Alternate and conceptual modal genre application brings about a certain degree of scale duplication. For example, assigning CMT Vh to the C maj^7 chord places the tonic of the chord (C♮) on the fifth degree of the F LC Scale, the conceptual parent LC Scale provided by this choice. However, mode V of the F Lydian Scale is the C major scale, one of the eleven member scales of the C Lydian Chromatic Scale. So why bother to make conceptual computations? Because even with duplication, many more scale possibilities are revealed. More importantly, these possibilities are unveiled in their true and natural relationship. For instance, the most natural position for the Ionian mode (i.e.: C, D, E, F, G, A, B) is as mode V of the Lydian Scale (F Lydian in this case). This was its original, pre-fifteenth century position in the church modal system before the church fathers relented and permitted the major scale (the scale of duality) to exist on what was to become the common key center of a system of seven modes.[1]

The rightful, most scientific, as well as spiritual position for the Ionian mode is as the fifth mode of the Lydian Scale, the seminal scale of chord/scale unity and foundation of the Lydian Chromatic Scale.

Chart A lists two of the four CMG (Vh and IIh) within the I major/altered major PMG category. This means that by assigning CMT Vh to the root of any traditional PMG I major chord, (i.e., C maj^7), its Primary Modal Genre, though not its fundamental tones (C, E, G, B) is converted to a CMG Vh chordmode of the LC Scale a 5th below its tonic (an F LC Scale).

Instead of sounding as a PMG I C maj^7/C LC Scale Alliance, the same C maj^7 chord, as an F Vh conceptual chordmode, will sound as a C maj^7 [CMG Vh]/F LC Scale Alliance. In this VTG Alliance (Prevailing Chord-

1. See Technical Appendix, Reed Gratz article.

mode/Parent [LC] Scale Alliance), C maj^{7} will be the prevailing chordmode in either case, whether it is formed with its PMG I parent [LC] Scale (the C LC Scale) or its CMG Vh Parent [LC] Scale (the F LC Scale).

Assigning CMT IIh to a PMG I C major triad or C maj$^{\flat 7}$ chord will cause it to sound in the context of a C maj$^{\flat 7}$ IIh/B$^{\flat}$ LC Scale Alliance. Of course, any principal, member or official scale[1] of the conceptual parent scale (B$^{\flat}$ LC Scale in this instance) may be used with the C major triad or C maj$^{\flat 7}$ chord. In fact, the C Lydian Flat Seventh Scale is mode II of the B$^{\flat}$ Lydian Augmented Scale, as B$^{\flat}$ Lydian Mode II is the C maj$^{\flat 7}$ scale and B$^{\flat}$ auxiliary diminished mode II is the C auxiliary diminished blues scale.

As previously stated, alternate and conceptual modal tonic degrees, when applied to a PMG listing them on Chart A, convert that PMG as well as its designated Parent LC Scale to an Alternate or Conceptual Modal Genre/Parent LC Scale Alliance indicated by their own roman numeral. This ability of Alternate and Conceptual Modal Genres to *convert* a PMG/Parent LC Scale Alliance qualifies them to be regarded as a sub-prime class of the LC Scale's Secondary Modal Genres.

Exceptions to this process exist when any one of the four conceptual modal tonic degrees (IIIh, Vh, IIh and VIIh) listed on Chart A have a Primary Modal Genre rooted on the identical roman numeral degree. If the CMT degree roman numeral and its Chart A associated PMT degree roman numeral are the same, the results of substituting the CMT roman numeral for that PMT degree roman numeral will cause only the PMG to be converted to the CMG's type while the prevailing parent [LC] Scale remains unchanged.

1. See *Official Scales*, Chapter VII, page 147.

Summation of Conceptual Modal Genres

The four conceptual modal genre triads of the Lydian [LC] Scale are V major, III minor, II major, and VII minor. They function both vertically and horizontally.

VERTICALLY: each of the four CMG of a LC Scale may function as the prevailing chord of a VTG alliance formed between it and any of the eleven member scales of its designated parent [LC] Scale.

HORIZONTALLY: the four CMG function as tonic stations to which chordmodes from any of the eight PMG of their conceptual parent [LC] Scale may resolve.

Test C

Compose an interesting, imaginative solo derived from parent [LC] Scales established by the modal tonic degrees (primary, alternate or conceptual) that you have assigned to the chords in the following progression.

Always note the chosen modal tonic degree roman numeral to the right of the prevailing chord. Be sure to note (in a bracket above the chord) the scale you've selected from the parent LC Scale indicated by your designated modal tonic degree.

The nomenclature shown in the two bar break preceding the first chorus is the correct one to follow throughout this test. Simply complete it by deriving an ingoing vertical melody of your own from the F LC Scale. A certain amount of chromatic enhancement of a scale may be used judiciously.

When you've completed this test, compare your ingoing vertical melody solo with that of Miles Davis's solo on page 130 of this chapter.

Secondary Modal Genre Melody on the Level of Vertical Tonal Gravity

Secondary Modal Genre of the LC Scale is a subject properly belonging to Volume II, dealing with the tonal resources of the LC Scale. However, since the 1959 edition of the *Lydian Chromatic Concept of Tonal Organization* implied their use on any Level of Tonal Gravity, and Eric Dolphy and Coltrane (among others) used Secondary Modal Genres in their improvisa-

tions on all three levels, it might be helpful to spend a little time on this subject in this current chapter.

The general class of Secondary Modal Genres includes any and all principal or Sub-Principal Chordmodes of any LC Scale, except for those of the prevailing LC Scale in which they currently are manifesting, in a manner suggesting the expansion of that LC Scale's tonal environment.

Alternate and Conceptual Modal Genre have the authority to convert and/or establish prevailing Chordmode/Parent LC Scale alliances, giving them nearly the same status as Primary Modal Genres. They therefore constitute the sub-prime class of Secondary Modal Genres (SMG). However, when used in the context of the general class of SMG (as defined above), Alternate and Conceptual Modal Genres lose their sub-prime status and therefore no longer have authority to convert prevailing LC Scales. They are regarded instead as general class SMG manifesting within the context of the prevailing PMG/Parent LC Scale alliance as expressions of its five tonal orders and four tonal levels.[1]

The general class of SMG functions completely within the prevailing PMG/Parent LC Scale alliance and has the effect of expanding its tonal environment rather than converting it.

Secondary Modal Genres are a product of the tonal gravity chart[2] *which shows that the chordmodes of* all *LC Scales are manifested within* one *LC Scale and therefore those of one LC Scale are in all LC Scales.* The one hundred forty-four intervals of the tonal gravity chart (representing all of equal temperament or a single Lydian Chromatic Scale) make this a fact.

Look at the circle of LC Scales (Example VIII:1) and consider the overall Lydian Tonic, the Lydian Tonic representing the key of the music (F♮, for example) to lie on roman numeral I, the six o'clock position of the circle.

Assume we're on the Level of VTG where the gravity centering element (the prevailing chord on which we are momentarily focused) is a C min^7. C min^7 (PMG VI) indicates the E♭ LC Scale, two fifths in a flat direction from the F LC Scale (the key of the music) as its parent LC Scale. Now imagine all chordmodes of the eleven other LC Scales within the circle of LC Scales

1. See Chart, Example II:3 as well as the "Tonal Gravity Chart" in Volume II.
2. See Volume II.

being available for use within the prevailing C min^7 (VI)/E$^\flat$ LC Scale alliance, including those referred by any alternate and/or conceptual modal tonics listed in the VI minor PMG on Chart A. This is the full spectrum of possibilities provided by the LC Scale for exploitation of SMG within a prevailing chord/parent LC Scale alliance on the level of VTG. The end result is the expansion of that VTG alliance's parent LC Scale from its PROTONIC to PANTONIC state.

AMG and CMG are easily absorbed into the broad spectrum of the general class of SMG of a LC Scale. However, as such, their LC Scale converting privileges are canceled.

In applying SMG on the level of VTG, it must be understood that compliance with the law of VTG is absolutely essential in maintaining the integrity of the Level of VTG and the principal of chord/scale unity on which it is founded. It is within the context of each prevailing PMG/parent LC Scale alliance that SMG manifest. However, their use within VTG alliances must be carefully managed to sustain the integrity of the level of VTG, summarized again as follows:

The Level of Vertical Tonal Gravity

The Level of VTG exists as the definitive type of tonal behavior when a procession of prevailing chord/parent [LC] Scale alliances is related to in order to derive from each parent [LC] Scale a several note melody that, above all else, indicates the harmonic genre of its prevailing chord. Within the duration of each VTG alliance, secondary modal genre melodies may occur as secondary expressions of its tonal levels as long as the basic requirement of the law of VTG is fulfilled; this is the creation of a melody that ultimately conveys the harmonic genre of its prevailing chord within the context of each VTG alliance.

Coltrane's Early Use of Secondary Modal Genre

If the symbol 𝄋 is considered to stand for the term "secondary modal genre expanded," then the formula for expressing a VTG alliance using the SMG Option is "PMG/𝄋 Parent [LC] Scale Alliance" or simply, "𝄋 VTG Alliance."

John Coltrane's solo on his recording of Thelonius Monk's *Straight No Chaser* has several examples using SMG. %VTG Alliances are what happens in bars 2, 6, 30 and 32 of Coltrane's solo.

In bar 2, a D♭ Lydian Augmented Scale SMG fragment is sounded within the context of a B♭7/A♭ LC Scale Alliance. Here, the PMG II seventh chord (B♭7) is treated as if it were a PMG VI minor chord (B♭ minor chord). Roman numeral VI is not one of the AMT degrees listed in the PMG II seventh chord category on Chart A, therefore the D♭ Lydian Augmented Scale fragment occurring in bar 2 is viewed as an example of the SMG option.

Bars 3 and 4 of Coltrane's solo features an example of an AMT degree being used in relation to an F7 chord. This results in the conversion of a conventional PMG II seventh chord into a PMG VII 11♭9 chord. Imposing alternate PMT degree VII on the root of the chord (F♮) establishes the G♭ LC Scale as the alternate parent LC Scale in these two bars.

In bar 6, Coltrane again relates to the B♭7 chord as though it were a B♭ minor chord, as indicated by the D♭ Lydian Augmented fragment used as a SMG expression of the twelve tone order within the A♭ LC Scale (the prevailing LC Scale in bars 5 and 6). The tone A♮ at the end of beat 2 places this SMG melody within A♭ LC Scale's twelve-tone order.

On the last two beats of bar 8, Coltrane implies the D7 chord as a +V alternate parent LC Scale choice (G♭ Lydian augmented).

In bar 30, Coltrane again sounds two motifs previously imposed on B♭7 chords in bars 2, 14, and 26 of this solo. But this time, the ascending A♭ Lydian Scale melody on beats 1 and 2 of bar 30 is followed by a D♭ Lydian Diminished Scale SMG fragment on beats 3 and 4. Bars 31 and 32 show Coltrane's melody being derived from the F♯ Lydian Augmented Scale in both of these bars. LC Concept analysis explains this by assigning AMT degree VII to the tonic (F♮) of the F 7th chord converting it to an F7 (VII)/F♯ Lydian Augmented Scale Alliance within the F♯ LC Scale, the Prevailing LC Scale in bar 32. The Am7♭5 chord on the first two beats of bar 32 can be thought of as a brief SMG (♭III) Alliance within the Prevailing (F♯) LC Scale of that bar.

Bars 33 and 34 show Coltrane imposing a B♭ major scale melody over the G min7 and C7 chords. This is a good example of using a horizontal member scale melody within the context of, in this case, a B♭ LC Scale VTG alliance, thereby enabling us to again grasp the idea of a verticalized horizontal melody.

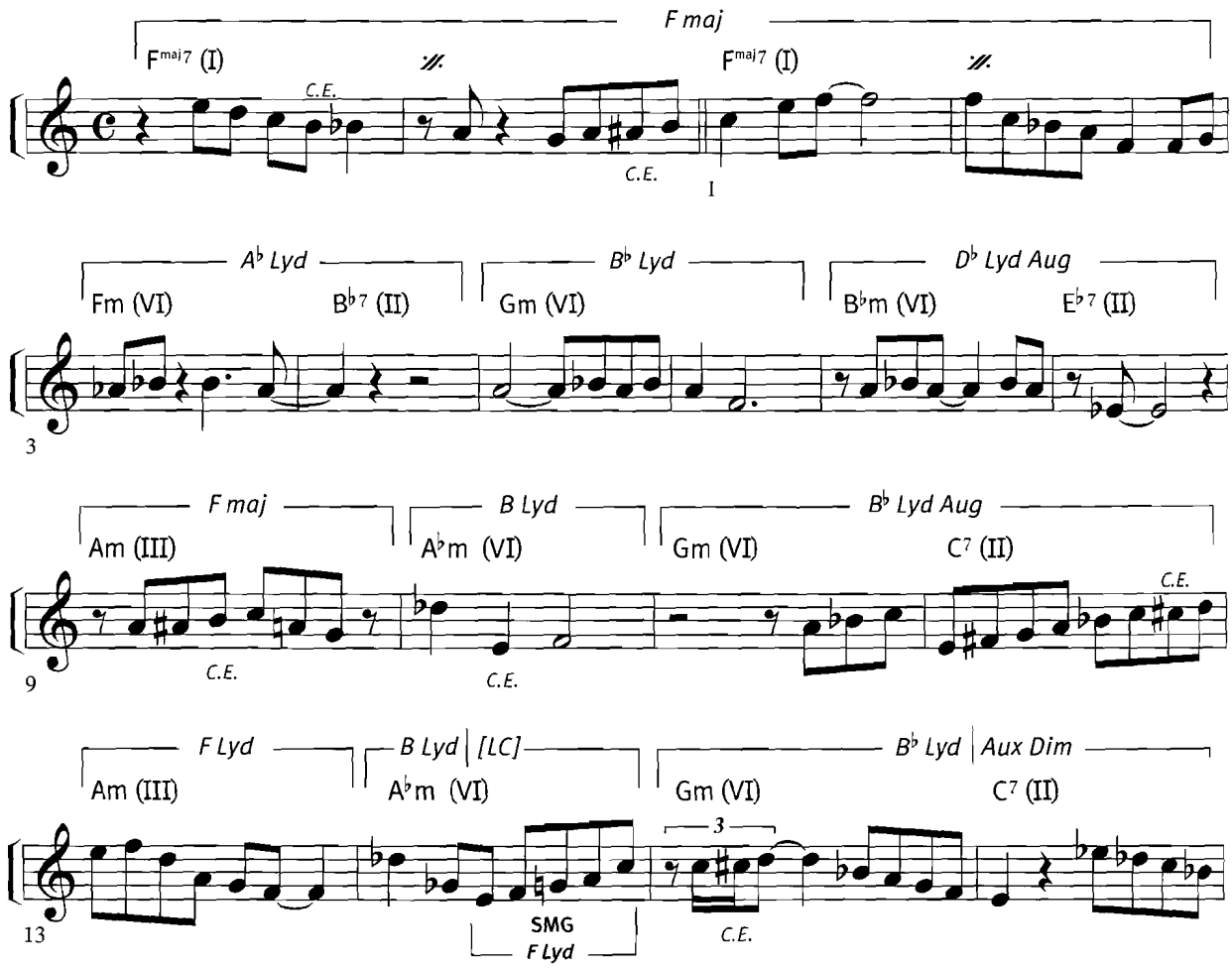
The first four notes of bar 35 has Coltrane again deriving a SMG four-note fragment from the D♭ Lydian Scale. On the last three notes of bar 35, and all of bar 36, he settles into an ingoing VTG melody within the E♭ Lydian Scale, the Prevailing LC Scale in bars 35 and 36.

As Coltrane became more conscious of chordmodes, his use of SMG became more extensive and more daring. The tour-de-force solo on *Manhattan* is an excellent testimonial to this.[1]

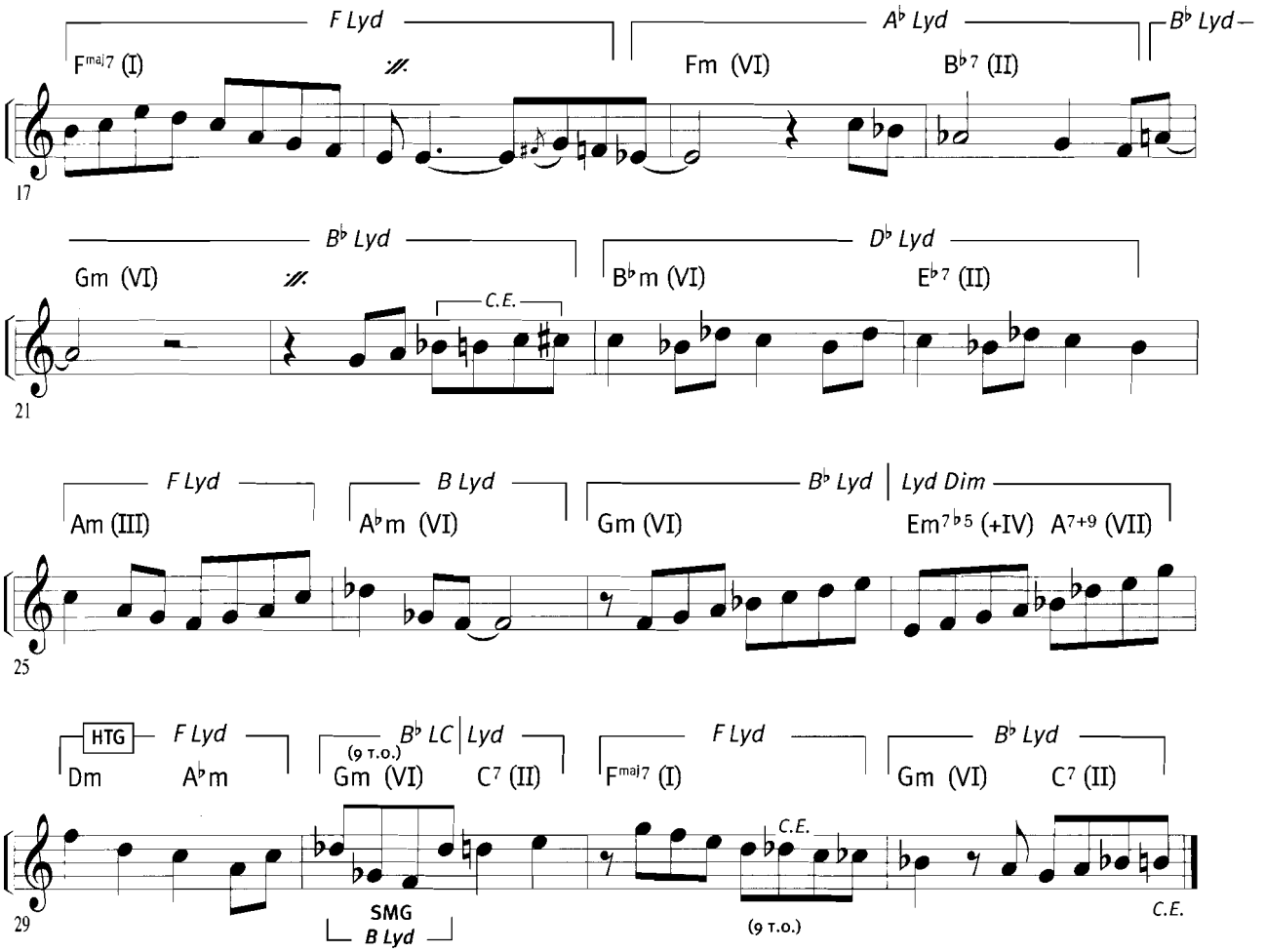
Compare your written solo on the chords of Test C with the Miles Davis improvised solo on those same chords belonging to his composition *Four.*

Four

MILES DAVIS'S SOLO



1.See Coltrane's *Manhattan* solo, Chapter VII, page 179.



Prevailing chord/parent [LC] Scale alliances occur in each bar from the beginning through bar 8 of Miles's solo. (Bar 1 begins immediately following the 2 bar break at the start of the solo).

> Bar nine shows Miles verticalizing the A min^7 chord with an F major scale melody derived from the eleven-tone order of the F LC Scale.
>
> Bars 13 and 25 represent Miles imposing the F Lydian Scale in a conceptual modal genre (CMG) manner upon the A min^7 chord in each of these two bars.

The composition, *Four*, preceded Miles's involvement with the LC Concept and, consequentially, Miles's Modal Period that was enabled by the

influence of the Concept. Therefore, historically, Miles was no doubt using the F major scale in these three bars. Remember that before the Lydian Concept's first edition in 1953, virtually all jazz musicians depended on traditional Western theory with all its omissions and subjectivity. So certainly Miles must have been thinking of the F major scale in bars 9, 13, and 25 of the *Four* solo. However, his neutral approach to the melody in these three bars is a signal that his intuitive center was preparing for a new approach to chord/scale relationships. In bar 9, he neutralizes the fourth degree (A♯) of the F major scale with the flat fifth degree (B♮) of the F Lydian Scale. In bars 13 and 25, he omits both definitive tones, B♭ and B♮ from the melody. In deference to an old but steady law of the Lydian Concept that is applicable here: in conflcting circumstances always chose the most ingoing solution. (The F LC Scale prevails in bars 9, 13, and 25 of Miles's solo on *Four*.)

In bar 14, an F Lydian SMG fragment is sounded over an A♭ min^7 chord thereby expanding its B Lydian parent Scale tonal environment into the twelve-tone order.

Bar 29 features an F Lydian Scale melody sounding horizontally. Miles allows the A♭ min^7 chord to function as a color of his F Lydian melody, then imposes a vertically sensitive nine-tone order melody of the B♭ LC Scale on the G min^7 and C^7 chords in bar 30.

At the time of the *Four* solo, Miles was inevitably looking beyond to a concept that would slow down the harmonic rhythm of the chord flow. He needed wide open spaces to spend more time coloring and developing a single chordmode as he was becoming more conscious of chordmode relationships. This inevitably led to what, in jazz terms, is called the "Modal Period." Some naïve and narrow-minded people like to advertise their ignorance by saying "the Modal Period in jazz is dead." They don't understand that chords are parented by modes—hence the chord and its parent mode makes an inseparable chordmode. Chordmodes are parented by scales (parent scales). Chordmodes are an intrinsic component of the Western harmonic spectrum. The 1953 publication of the *Lydian Chromatic Concept of Tonal Organization* revealed these relationships, perhaps for the first time ever. Western music is founded on chordmodes; they are its building blocks and represent Western culture's most profound theoretical contribution to "World" music.

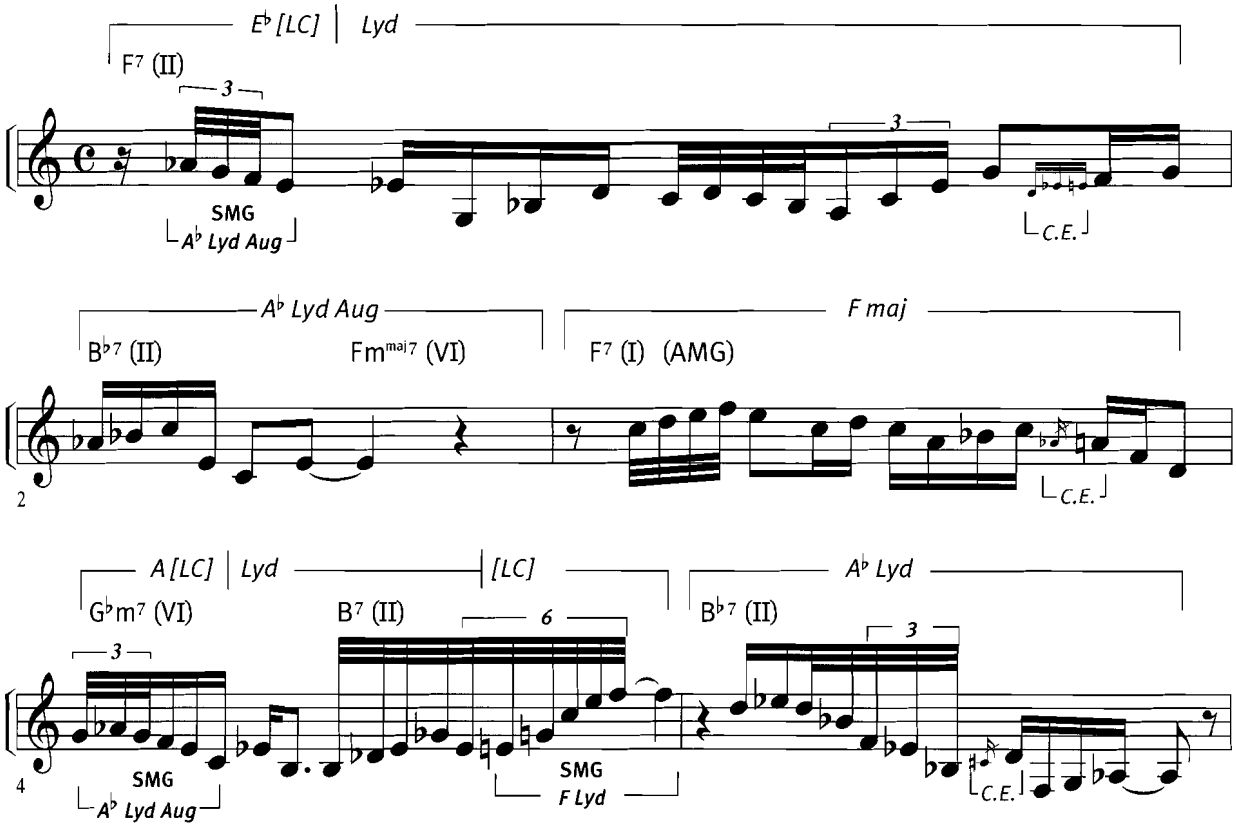
Eric Dolphy's solo on 245

Eric Dolphy and I crossed paths in the early 1960's. I first heard him when he emerged out of Los Angeles with Chico Hamilton's ensemble. He stayed on in New York to join Charlie Mingus's group. I heard them at a club called The Open Door. After introducing myself, I invited Eric to my apartment on Bank Street. I discussed my sextet, my contract with Riverside Records and invited him to record with us. Orin Keepnews and Bill Graham were the founders of Riverside Records, a very adventurous and progressive label. I had a contract for three albums; Eric performed on one of them, *Ezzthetics*.[1]

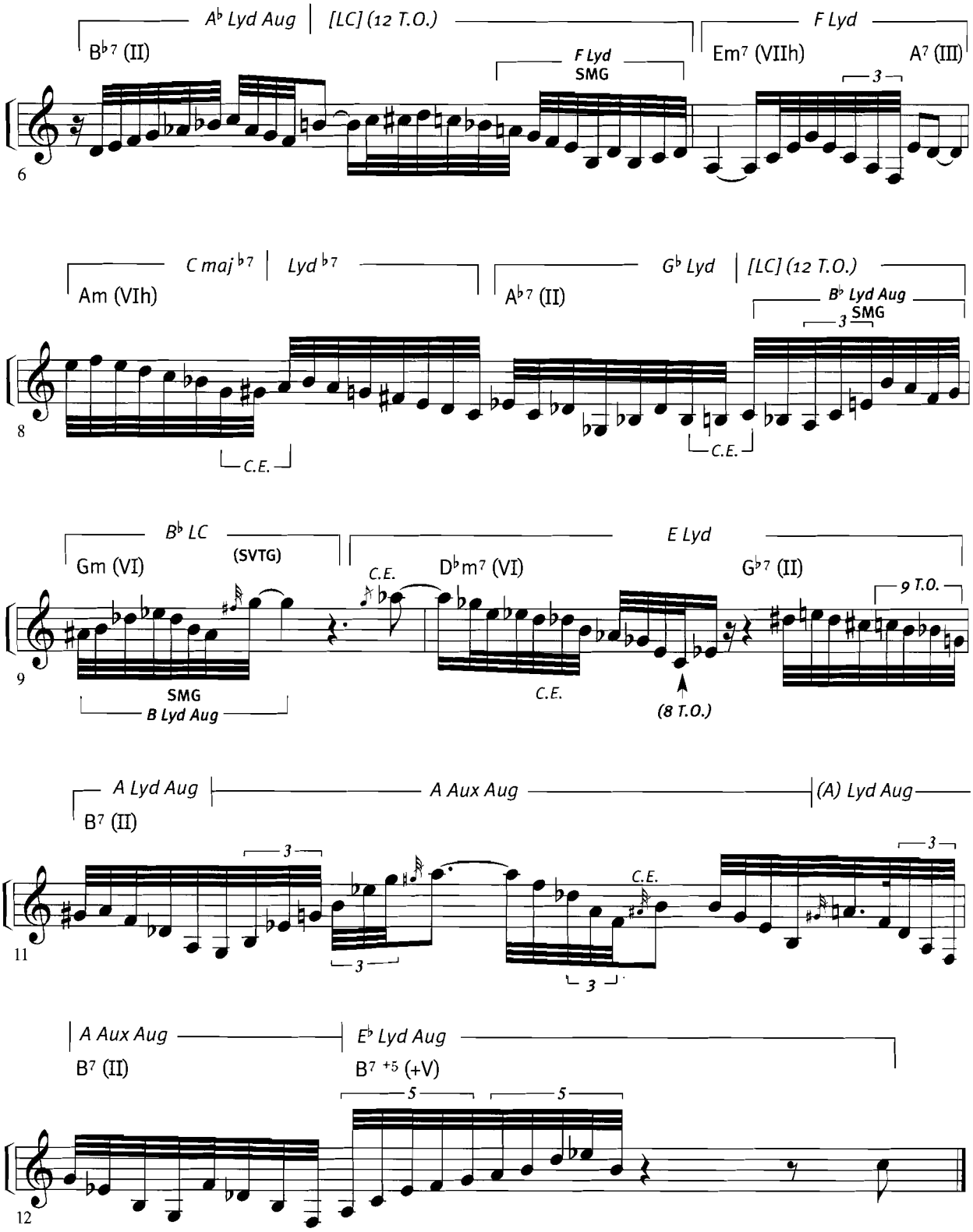
The LC Concept's second edition was published in 1959, so Eric and I spent several sessions discussing its various applications. I've always treasured the card sent me from Paris shortly before his death.

245

ERIC DOLPHY'S SOLO



1. See *Discography*


A♭ Lyd Aug
[LC] (12 T.O.)
F Lyd
B♭7 (II)
F Lyd
SMG
Em7 (VIIh)
A7 (III)
3
6
C maj♭7
Lyd♭7
Am (VIh)
G♭ Lyd
[LC] (12 T.O.)
A♭7 (II)
B♭ Lyd Aug
SMG
3
8
C.E.
C.E.
B♭ LC
(SVTG)
E Lyd
Gm (VI)
C.E.
D♭m7 (VI)
G♭7 (II)
9 T.O.
9
SMG
B Lyd Aug
C.E.
(8 T.O.)
A Lyd Aug
A Aux Aug
(A) Lyd Aug
B7 (II)
3
3
C.E.
3
3
11
A Aux Aug
E♭ Lyd Aug
B7 (II)
B7 +5 (+V)
5
5
12

The nomenclature used in the following analysis of Dolphy's solo on *245* is illustrated to state:

[1] *the precise components of the alliance operating in each bar*; and

[2] *the functional relationship of these components on the level of vertical tonal gravity.*

BAR 1

[1]	F^7 (II) BEATS 1–4	⅋ $E^\flat$ Lyd [LC] Scale alliance
[2]	PMG II seventh	⅋ parent [LC] Scale alliance

Within the context of the F^7 (II)/⅋ $E^\flat$ Lyd [LC] Scale Alliance,[1] the prevailing chord/parent LC Scale Alliance featured in bar 1 of his solo, Dolphy introduces the initial phrase with a four-note SMG fragment of the $A^\flat$ Lydian augmented scale before settling into the $E^\flat$ Lydian Scale, the primary parent scale of an F^7 chord. This brief $A^\flat$ (Lyd Aug) Scale SMG sounding over the F^7 chord creates a fleeting impression of an F minor (VI)/$A^\flat$ (LA) Scale Alliance which has the effect of expanding the tonal environment of the $E^\flat$ LC Scale, the prevailing LC Scale in bar 1. Roman numeral VI is not one of the alternate modal tonic degrees listed with the PMG II on Chart A. Therefore, the II seventh chord treated as a VI minor chord is viewed as a SMG condition when it occurs within the context of a VTG Alliance.[2]

After sounding the $A^\flat$ Lydian Augmented Scale SMG fragment, Eric's melody settles comfortably into the $E^\flat$ Lydian Scale in deference to the law of vertical tonal gravity.

BAR 2

[1]	$B^{\flat 7}$ (II) BEATS 1 & 2	Fm^{+7} (VI) 3 & 4	$A^\flat$ Lyd Aug [LC] Scale alliance
[2]	PMG II seventh	PMG VI minor	parent [LC] Scale alliance

Bar 2 is a plain and simple $B^{\flat 7}$ (II)/$A^\flat$ Lyd Aug [LC] Scale Alliance for beats 1 and 2, and Fm^{+7} (VI) / $A^\flat$ Aug [LC] Scale for beats 3 and 4.

1. The graphic symbol ⅋ stands for Secondary Modal Genre Expanded/Parent LC Scale Alliance.

2. John Coltrane employs this particular type of SMG. See bars 2 and 6 of his *Straight No Chaser* solo, Chapter VI, page 114.

BAR 3

1	F major $^{\flat 7}$ (I) BEATS 1–4	F major [LC] Scale alliance
2	AMG I major $^{\flat 7}$	parent [LC] Scale alliance

In bar 3, an F major scale melody is sounded over the F^7 chord. In LC Concept terms, this would indicate the use of alternate modal tonic (I) listed with PMG II 7th/altered 7th on Chart A. The F♮ root of the F^7 chord thereby becomes the Lydian Tonic of that chord's alternate parent LC Scale: the F LC Scale. The genre of the F^7 chord is transformed from a PMT II 7th chord to an AMT I F maj$^{\flat 7}$ chord. The F LC Scale thereby becomes the tonal environment in which the music of bar 3 unfolds.[1]

BAR 4

1	G$^{\flat}$ minor ^{7} (VI) BEATS 1 & 2	B^7 (II) 3 & 4	♯A [LC] Scale alliance
2	PMG VI minor	PMG II seventh	♯ parent [LC] Scale alliance

The two chords of bar 4 represent PMG VI and II of the A LC Scale. Eric's improvised melody employs secondary modal genre to expand the tonal environment of the A LC Scale, the parent LC Scale for both chords of bar 4. Again he states an A$^{\flat}$ Lydian Augmented Scale SMG fragment, this time over the G$^{\flat}$ min^7 chord. All the notes of the melody sounding over the first five eighth notes of bar four are within the ten-tone order of the A LC Scale. Over the remainder of the bar, Dolphy's melody sounds an F Lydian SMG fragment in a manner that shows how alternate parent scales can exist and be exploited within the general class of SMG.

1. Eric sounds a plain F major scale melody over the F maj$^{\flat 7}$ chord, obviously ignoring its flat seventh degree.
2. Roman numeral +IV is listed as one of the AMT degrees within the PMG II category on Chart A.

BAR 5

1	B♭7 (II) BEATS 1–4	A♭ Lydian [LC] Scale alliance
2	PMG II seventh	parent [LC] Scale Alliance

Bar 5 is a pure and simple B♭ 7th II/A Lydian Scale alliance, with only a single (11 T.O.) grace note (C♯) used as chromatic enhancement.

BAR 6

1	B♭7 (II) BEATS 1–4	A♭ Lyd Aug [LC] Scale alliance
2	PMG II seventh	𝄋 parent [LC] Scale alliance

Bar 6 begins with an A♭ Lydian Augmented Scale flurry that pauses midway through the bar on the nine-tone order's B♮ before continuing with a chromatic flurry into the twelve-tone order that segues into the F Lydian SMG fragment on beat 4.

BAR 7

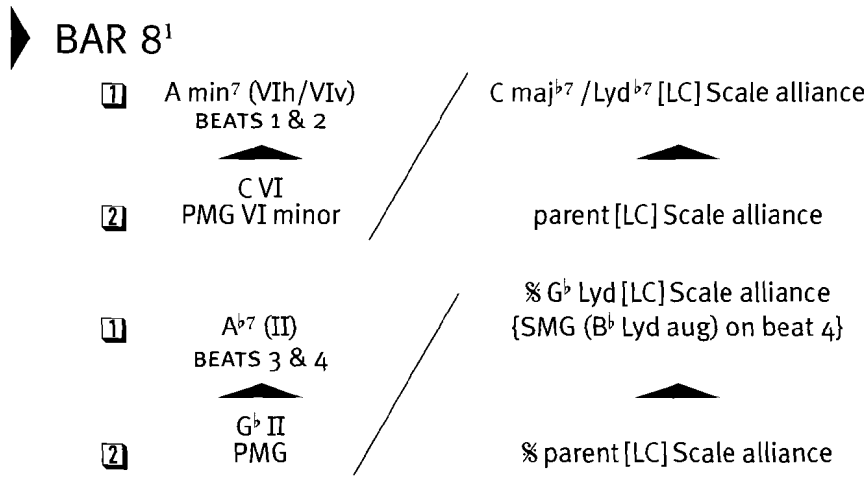
1	Em7 (VIIh) A7 (III) BEATS 1 & 2 3 & 4	F Lyd [LC] Scale alliance
2	(F VIIh) (FIII) CMT VIIh, AMT III	parent [LC] Scale alliance

In bar 7, the F Lydian Scale melody commencing on beat 4 of bar 6 is maintained throughout the entire bar. Dolphy's F Lydian melody sounding over the Emin7 chord on beats 1 and 2 of bar 7 establishes an Emin7/F Lydian [LC] Scale (CMG F VIIh) alliance for the first two beats of bar 7. An F Lydian Scale melody sounding within its VIIh minor chord (E min), represents the horizontal state of mode VII of that scale. The horizontal state (or mode) is always indicated by the presence within it of a non-final element and a finalized element to which the non-final resolves, or evidences a tendency to resolve.

Dolphy's F maj9 chordmode, sounding on beat 2 of bar 7, is the non-final element in relation to the E min7 chord and its CMT final, E♮. Because it is

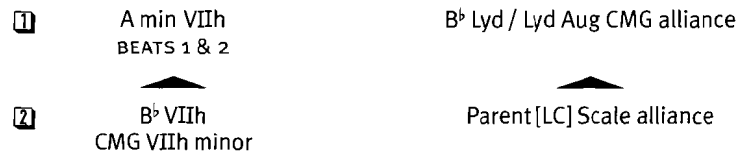
the seminal source of the vertical state of F Lydian Mode VIIv, an F maj^{9} chord sounding over an E min is very heavily weighted to resolve to (or sound a strong tendency to resolve to) the tone E♮ as a final.

The entire F Lydian Scale melody in bar 7 causes the A^{7} chord to exist as an F III AMG. Roman numeral III is listed as an AMT degree within PMG II on Chart A.



Bar 8: The C maj♭^{7} and C Lydian♭^{7} scale melody on beats 1 and 2 sounds both the horizontal and vertical states of the A minor chord, thereby establishing an A min (VIh/VIv)/C [LC] Scale alliance within those two beats. On beat 3, the A♭ root of the A♭^{7} chord is related to as PMG II of the G♭ LC Scale, thereby creating an A♭^{7}/G♭ LC Scale alliance expressed by a G♭ Lydian Scale melody. The tone B♮ (the last tone of beat 3) serves as a chromatic enhancement into beat 4. Beat 4 features an unaltered B♭ Lydian Augmented Scale materializing as a SMG within the context of the A♭^{7}/G♭ LC Scale alliance.

1. Bar 8: A conceptual treatment of bar 8, beats 1 and 2, results in the following CMG analysis.



BAR 9

1	G minor (VI) BEATS 1–4	⅜ B♭ Lyd [LC] Scale alliance B Lyd Aug Scale featured as an SMG Scale of the B♭ LC Scale
2	PMG VI minor	⅜ parent [LC] Scale alliance B Lyd Aug Scale featured as an SMG Scale of the B♭ LC Scale

Bar 9 features a B Lydian Augmented Scale SMG melody sounding within the context of a G min (VI)/B♭ [LC] Scale alliance.

BAR 10

1	D♭ min7 (VI) BEATS 1 & 2	G♭7 (VI) 3 & 4	E Lyd [LC] Scale alliance
2	PMG VI minor	PMG II seventh	parent [LC] Scale alliance

Bar 10 is a perfect example of the alliance formed between a parent LC Scale and two of its PMG—the E Lydian [LC] Scale and its VI minor and II 7th PMG.

BAR 11 & first half of bar 12

1	B7 (II) BAR 11: BEATS 1–4 BAR 12: BEAT 1	A LA/Aux Aug [LC] Scale alliance
2	PMG II seventh	parent [LC] Scale alliance

Bar 11 and the first beat of bar 12 represent a B7/A [LC] Scale alliance. The first half of bar 11 features an A Lydian Augmented Scale melody, with an A auxilliary augmented scale melody prevailing in the remainder of the that bar, up to and including beat 1 of bar 12.

BAR 12, beats 2–4

1	$B^{7\,+5}$ (+V) BEATS 2–4	$E^{\flat}$ Lyd Aug [LC] Scale alliance
2	PMG +V seventh^{+5}	parent [LC] Scale alliance

In accord with the $B^{7\,+5}$ chord on beat 2 of bar 12, the prevailing PMG/parent [LC] Scale alliance shifts to a $B^{7\,+5}$ /$E^{\flat}$ Lydian / [LC] Scale alliance for the remainder of bar 12.

CHAPTER VII

General Overview and Summary of the Level of Vertical Tonal Gravity

Types of Ingoing Vertical Melodies

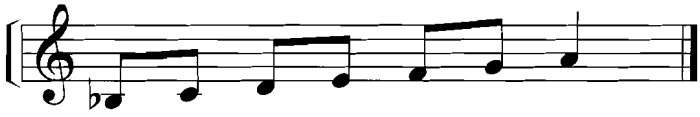
The melodic resources of the Lydian Chromatic Scale consist of two basic groups: ingoing and outgoing.[1] Outgoing melodic resources will be mentioned later in this chapter's reference to "secondary modal genre." However, the main focus of Chapter VII is on INGOING VERTICAL MELODIES.

An ingoing vertical melody is a melody derived from any of the eleven member scales of the parent Lydian Chromatic Scale dictated by a chord. The two species of ingoing vertical scale melodies are INGOING ABSOLUTE and INGOING CHROMATICALLY ENHANCED.

An absolute scale melody uses only the tones of the scale:

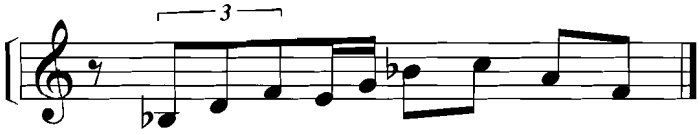
EXAMPLE VII:1

B♭ Lydian (absolute)



EXAMPLE VII:2

B♭ Lydian (absolute)



1. INGOING: tonal elements sounding in support of the tonical integrity of a perceptible *do*—in general, a subject's basic roots and familiar aspects. OUTGOING: tonal elements that sound in negation of a perceptible *do*, whether at length or briefly. Generally speaking, a subject's remote, contradictory, and "far out" aspects.

A chromatically enhanced scale melody occurs when a member scale of the prevailing LC Scale is used as a reference for a melody featuring member scale tones enhanced by non-scale, neighboring (passing) tones.

A member scale that is chromatically enhanced acquires additional tones taken from a tonal order of its parent LC Scale. The member scale is therefore a framework onto which other non-scale tones are grafted.

There are five tonal orders of the Lydian Chromatic Scale.[1] In descending order of their close to distant relationship with the Lydian Tonic (I) they are:

EXAMPLE VII:3

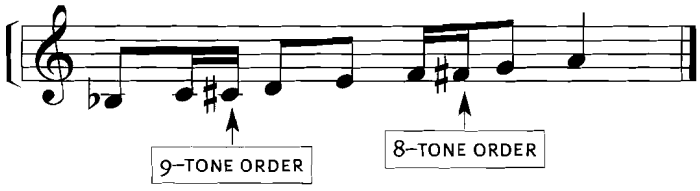
Five Tonal Orders of the Lydian Chromatic Scale

SEVEN–TONE ORDER:	1	5	2	6	3	7	+4					
NINE–TONE ORDER:	1	5	2	6	3	7	+4	+5	♭3			
TEN–TONE ORDER:	1	5	2	6	3	7	+4	+5	♭3	♭7		
ELEVEN–TONE ORDER:	1	5	2	6	3	7	+4	+5	♭3	♭7	4	
TWELVE–TONE ORDER:	1	5	2	6	3	7	+4	+5	♭3	♭7	4	♭2

A chromatically enhanced scale melody uses one or more tones from any of the five tonal orders. The most outgoing tone defines the tonal order of a chromatically enhanced melody. Example VII:4 is a nine tone order B♭ LC Scale melody (the most outgoing tone of this melody is C♯, the ♭3 degree). Example VII:5 uses the outgoing tone B♮, the ♭2 degree, defining it as a twelve-tone order B♭ LC Scale melody.

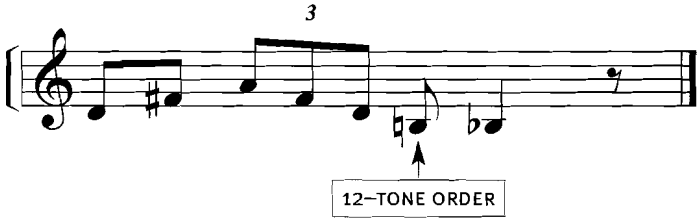
EXAMPLE VII:4

B♭ Lydian (chromatically enhanced—9 T.O.)



EXAMPLE VII:5

B♭ Lydian Aug (chromatically enhanced—12 T.O.)



1. See the LC Order of Tonal Gravity chart in Chapter II, page 13.

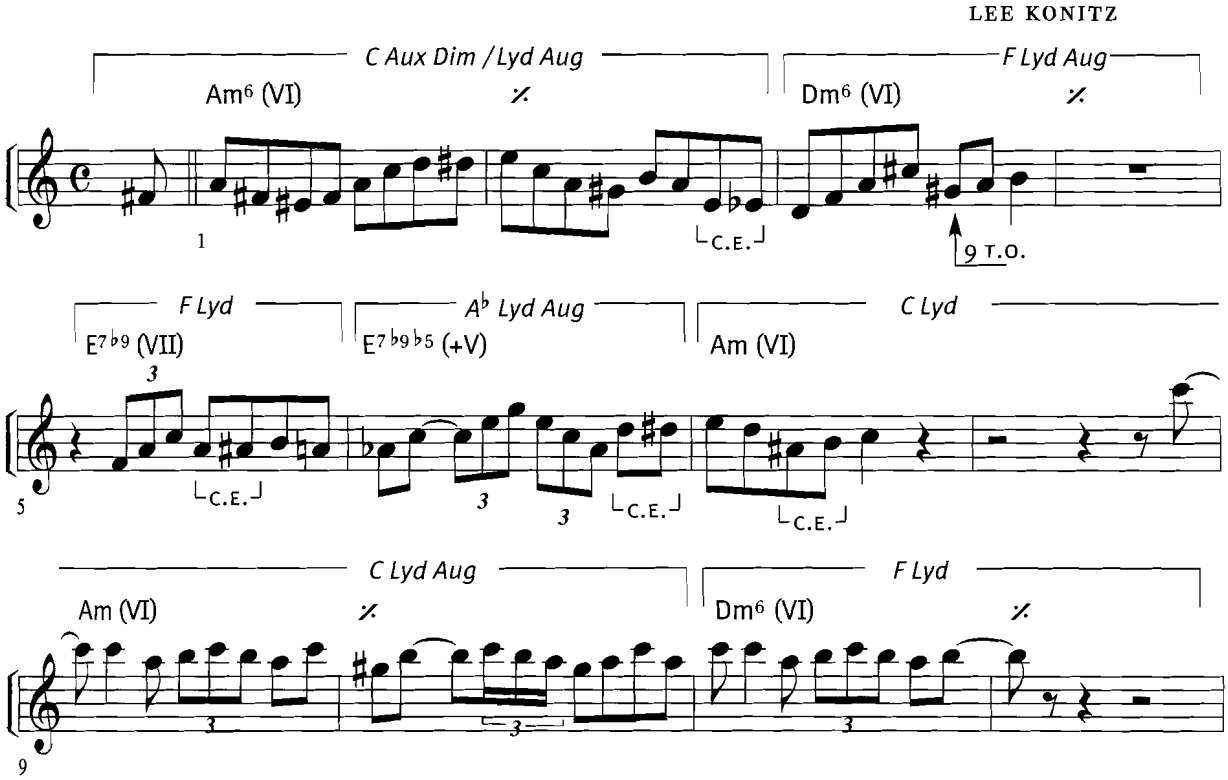
On the Level of Vertical Tonal Gravity, the Lydian Chromatic Scale dictated by the chord is the source of tonal organization from which the musician derives parent, member, or official[1] scale melodies (absolute or chromatically enhanced) to sound with the chord. The musician's growing awareness of the five tonal orders of the Lydian Chromatic Scale makes it possible to also use them directly as tonal resources of the parent LC Scale.

An ingoing vertical melody is a melody derived from any of the eleven member scales of the Lydian Chromatic Scale determined by the chord. This scale is used as a frame for absolute or chromatically enhanced melodies. Melodies derived from alternate parent LC Scales are included in this definition.

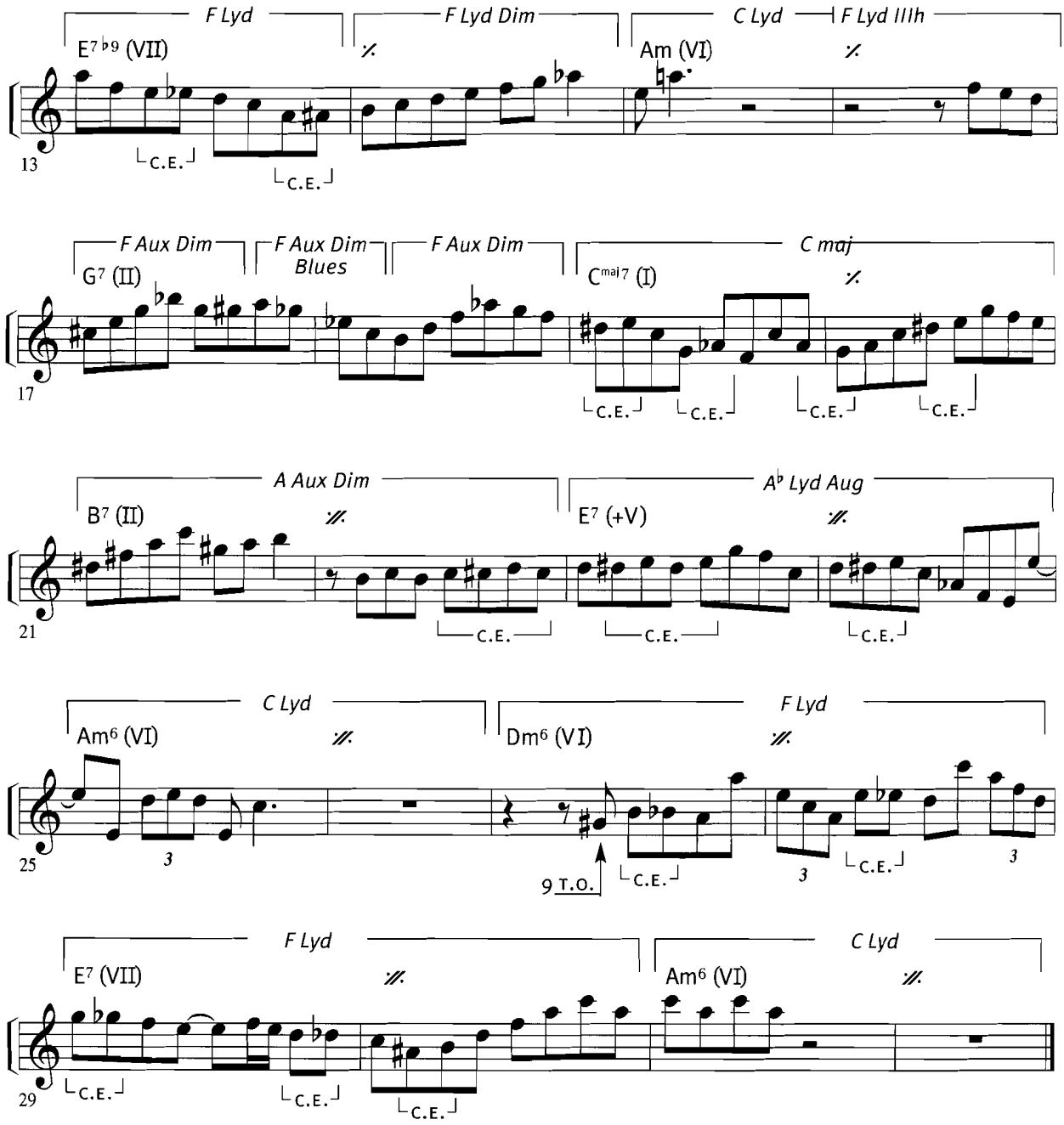
The entire line of Lee Konitz's *Kary's Trance* can be termed an INGOING VERTICAL MELODY. The choice of scales is always determined by each chord. The line also makes use of chromatic enhancement as well as alternate parent scale choices.

Kary's Trance

LEE KONITZ



1. Official scales of the LC Scale are discussed on page 147 of this chapter.



In *Kary's Trance,* Lee employs absolute and chromatically enhanced ingoing vertical melodies. Let's analyze a few bars of this interesting line:

BAR 1
1. Chord and scale degree selected: *A minor (VI)*
2. Parent Lydian Chromatic Scale: *C*
3. Member scale used: *C auxiliary diminished*
4. Type of melody: *an absolute scale melody*

The tone E♭ at the end of bar 2 may be viewed as converting the otherwise absolute C Lydian Augmented Scale melody of that bar into a nine-tone order melody of the C LC Scale, or as being a ten-tone order chromatic enhancement of the F Lydian Augmented Scale melody in bar 3.

The $E^{7\,\flat 9}$ chord occurring in bars 5 and 6 is given two different scale degree choices. In bar 5, this altered seventh chord is given an alternate scale degree choice of VII, giving it a F Lydian (VII) AMG Scale color. In bar 6, AMT degree +V produces an A♭ Lydian Aug alternate parent Scale choice. Both bars are examples of chromatically enhanced ingoing vertical melodies.

The $E^{7\,\flat 9}$ chord in bar 13 is given an alternate scale degree choice of VII, resulting in a chromatically enhanced F Lydian Scale melody imposing its AMG VII color on that chord. In bar 14, the $E^{7\,\flat 9}$ chord is again treated as an AMG VII chord, thereby causing an absolute F Lydian Diminished Scale melody to prevail in that bar.

Bars 17 and 18 employ the F aux dim, F aux dim blues and then the F aux dim scales in rapid succession. The changing of parent or alternate parent LC Scales is at the discretion of the musician; there is no law that states it must occur only on the first beat of a bar.

An alternate parent scale choice is made for the E^7 chord in bars 23 and 24. The modal tonic degree +V given to the E^7 chord in these two bars obliquely suggests an A♭ Lydian Augmented Scale ingoing vertical melody.[1] Alternate modal tonic degree VII assigned to the E^7 chords results in a chromatically enhanced F Lydian melody in bars 29 and 30.

In conclusion, Lee Konitz's solo on *Kary's Trance* is essentially <u>an absolute and chromatically enhanced ingoing vertical melody</u>—derived from primary and alternate parent LC Scale choices manifesting on the level of vertical tonal gravity (VTG).

The Law of Vertical Tonal Gravity[2] insists that the melody sounding with a prevailing chord must necessarily sound an ingoing vertical relationship with the chord's harmonic genre; that is, the melody must convey the genre of that chord, essentially for all or a significant part of its duration. Melodies for a chord are derived from its designated parent [LC] Scale, especially that

1. Using the 8- tone, semi-ingoing tonal order of the A♭ LC Scale.

2. See Chapter V, page 90.

of its primary parent [LC] Scale. The seven principal scales of a chord's primary parent LC Scale will furnish the most ingoing vertical melodies.

An alternate or conceptual parent LC Scale, made available to the prevailing chord by its PMG category on Chart A, may be chosen as the prevailing LC Scale, instead of that chord's primary parent LC Scale. Nevertheless, alternate or conceptual parent LC Scales serving as the prevailing LC Scale are still governed by the Law of VTG. However, they most likely will manifest their ingoing vertical melody as a more altered version of the prevailing chord.

Merely a glance at the *Giant Steps* solo by John Coltrane shows it to be a progression of VTG alliances (prevailing chordmode/parent LC Scale alliances occurring on the Level of Vertical Tonal Gravity). This is not conjecture or assumption, it is a matter of fact.[1]

> Coltrane activates each prevailing chordmode/parent LC Scale alliance with a several note melody derived from its parent LC Scale; this melody is structured to sound an ingoing vertical relationship with the unique harmonic genre of the prevailing chordmode for all or a greater part of its period of duration.

Except for two brief references to HTG, Coltrane's solo represents a succession of VTG alliances that conform completely with the General Law of Vertical Tonal Gravity. The entire solo can be termed an "ingoing vertical melody."

This solo melody is so convincingly vertical that had Coltrane played it entirely without any accompaniment, the harmonic identity of each chord would have still been clearly perceptible. This is a perfect example of vertical tonal gravity.

The sixteen-bar theme of *Giant Steps* is not a VTG conceived section. This will be discussed in Volume II.

In summary: ingoing vertical melodies are derived solely from principal, member, or official scales of the parent LC Scale designated to a chord. The prevailing chord (VTGCE), with the help of Chart A, invites the vertically conscious musician to assign a parent LC Scale to it. The musician has the choice of assigning to the chord any one of the following parent LC Scales, which are listed in the order of their relative close to distant relationship to the chord:

1. See Coltrane's *Giant Steps* solo, Chapter V, page 96: bars 17 and 28.

1. Its primary parent LC Scale
2. An alternative or conceptual parent LC Scale listed within the chord's PMG on Chart A.

Within the chord's parent LC Scale (the prevailing LC Scale), ingoing vertical melodies can be derived from its principal scales, or official scales.

Official Scales of the Lydian Chromatic Scale

In addition to a LC Scale's eleven member scales, other scales, derived from any of the five tonal orders, may also be structured on its Lydian tonic. These additional scales are referred to as OFFICIAL SCALES of the Lydian Chromatic Scale.

> The only requirement for an official scale is that its primary mode must be rooted on the prevailing Lydian Tonic. This guarantees the official scale a Lydian tonic position in all twelve LC Scales.[1]

The Lydian Tonic rooted mode of any scale will sound in support of its Lydian Tonic as the ultimate, authoritative *do* of the LC Scale. The eleven member scales of the LC Scale clearly demonstrate this.

Official scales are added to the family of eleven member scales of the LC Scale at the discretion of the musician's aesthetic taste. After adding his or her own official scales to the eleven member scales of the LC Scale, the musician may apply these as personalized tonal colors in any musical situation.

The following official scales of a LC Scale are mentioned because of their historical or cultural significance:

EXAMPLE VII:7

Seven-Tone Order Official Scales

I V II VI III VII +IV

PENTATONIC: I 2 3 5 6 — C D E G A

MODE VI MINOR: 6 I 2 3 5 — A C D E G

(Regarded as the world's oldest and most universal folk scale)

1. Official scales containing the sixth degree as well as the Lydian Tonic will have I major and VI minor modes within the corresponding LC Scale.

EXAMPLE VII:8

Nine-Tone Order Official Scales

	I	V	II	VI	III	VII	+IV	+V	♭III

	I	(2)[1]	♭3	3	+4	5	6	7
LYDIAN ♭3:	C	(D)	E♭	E	F♯	G	A	B

	6	7	I	(2)	♭3	3	+4	5
MODE VI MINOR:	A	B	C	(D)	E♭	E	F♯	G

	3	+4	5	6	7	I	(2)	♭3
MODE III MINOR: (HARMONIC MINOR)	E	F♯	G	A	B	C	(D)	E♭

EXAMPLE VII:9

Ten-Tone Order Official Scales

	I	V	II	VI	III	VII	+IV	+V	♭III	♭VII

	I	2	♭3	+4	5	6	♭7
LYDIAN DIM ♭7:	C	D	E♭	F♯	G	A	B♭

	6	♭7	I	2	♭3	+4	5
MODE VI MINOR:	A	B♭	C	D	E♭	F♯	G

EXAMPLE VII:10

Eleven-Tone Order Official Scales

	I	V	II	VI	III	VII	+IV	+V	♭III	♭VII	IV

	I	2	♭3	(3)	4	+4	(5)	+5	6	(7)
PAN LYDIAN:	C	D	E♭	E	F	F♯	G	G♯	A	B

	6	(7)	I	2	♭3	(3)	4	+4	(5)	+5
MODE VI MINOR:	A	B	C	D	E♭	E	F	F♯	G	G♯

EXAMPLE VII:11

Twelve-Tone Order Official Scales

	I	V	II	VI	III	VII	+IV	+V	♭III	♭VII	IV	♭II

1.

	I	♭2	(2)	♭3	3	+4	5	6	♭7	(7)
PAN DIMINISHED BLUES:	C	D♭	(D)	E♭	E	F♯	G	A	B♭	(B)

	6	♭7	(7)	I	♭2	(2)	♭3	3	+4	5
MODE VI MINOR:	A	B♭	(B)	C	D♭	(D)	E♭	E	F♯	G

2.

	I	(♭2)	2	(♭3)	3	4	5	+5	(♭7)	(*Sketches of Spain*)
PAN MAJOR +5:	C	(D♭)	D	(E♭)	E	F	G	G♯	(B♭)	

MODE VI MINOR: Though lacking the sixth degree, this scale is nevertheless applicable to VI minor PMG chords.

1. The parenthesized degree of a scale is elective.

As stated, you are free to derive your own official scales from the five tonal orders of the LC Scale. However, the seven principal scales are the most fundamental vertical scales of a LC Scale. Their unique capacity to contribute various types of basic chord colors to the eight PMG (chord mansions) of the LC Scale, while logically expanding the evolutionary (ingoing to outgoing) order of the LC Scale itself, establishes them as vertical scales in the purest sense within equal temperament. Equal temperament *is* the Lydian Chromatic (Western) Order of Tonal Gravity or single LC Scale, practically the full range of the grand piano keyboard. It is important to stress that it is not the number of tones in an official scale which defines its tonal order within its parent LC Scale—it is the most outgoing tone (and/or interval) which defines its tonal order as a nine-, ten-, eleven-, or twelve-tone order.

It is absolutely necessary to understand that in relation to the eleven member scales, the status of official scales is extrinsic and supplemental. Official scales are not regarded as principal structural elements of the LC Concept. They lack the primary[1] theoretical significance to replace the seven principal scales, which, in combination, form the fundamental tonal organization of the LC (Western) Order of Tonal Gravity, that is, the Lydian Chromatic Scale (see Example II:3).

It is the all encompassing scope of the LC Scale (as Example II:3 shows) that provides musicians with the freedom leading to the discovery of not only their own official scales but also to the discovery of their own, most innate aesthetic ideas.

The chart of Example II:3 also shows that the structural integrity of the LC Scale is firmly based upon the order of evolution of its own seven chord producing principal scales. It is these seven principal scales, assimilating and existing as chord/parent scale unities with Western music's five basic chord categories (major, minor, seventh, augmented, and diminished)[2] that are the seminal source of the LC Scale and the close to distant order of its tones in relation to a Lydian tonic.

In this way, the LC Scale is firmly founded on the harmonious principal of chord/scale unity, thereby prioritizing its PROTONIC tonal aspect, while not excluding even the most radical chromaticism indicative of the LC Scale's ATONIC aspect.

1. "Primary" meaning first in order of development.
2. Augmented and diminished chords are viewed as colors of the I major chord PMG of the LC Scale.

Using the interval of a fifth as the basic unit of tonal gravity and the Pythagorean ladder of fifths as its prototype, the Lydian Chromatic Order of Tonal Gravity (the LC Scale) embraces the two opposite poles of equal temperament, tonality (protonicity) and chromaticism (atonicity), its ingoing and outgoing aspects, within the tonal organization of a single LC Scale.

It is impossible for an official scale not to belong to one of the five tonal orders of the LC Scale based on its Lydian Tonic. In fact, official scales may sometimes just be tonal order expansions, chromatic enhancements or simply incomplete versions of one of the seven principal scales of the LC Scale.

As previously stated, the discovery of official scales is a matter best left to the aesthetic judgment of the musician. Rather than inundate the student with a plethora of scales, the LC Concept provides the tonal organization of the LC Scale which is able to accommodate all official scales. All official scales are viewed as belonging to the LC Scale's extended family of ingoing scales, since their Lydian Tonic mode supports the tonical authority of that Lydian Tonic.

It is not the aim of the LC Concept to dictate musical taste. It simply organizes the tonal resources of equal temperament within the most expansive tonal environment available: the Lydian Chromatic Scale. Within that environment, the musician is free to be ingoing, or to any degree, outgoing in relation to the prevailing Lydian Tonic. However, such freedom must be exercised within the prevailing Level of Tonal Gravity in accord with its law and chief features.[1] The failure to do this does not mean you are wrong. The LCCOTO is objective and therefore strives to not impose rights and wrongs on the individual's musical choices. Gravity is being and doing, not right or wrong.

Not observing the law of the prevailing Level of Tonal Gravity as specified by its chief features simply means that the prevailing level of tonal gravity has been transcended and therefore the music no longer acts or behaves in the manner guaranteed by its law and chief features. In other words, the music has switched gears, and is now behaving in accord with another one of the three Levels of Tonal Gravity. This must be the existing condition whenever the prevailing level of tonal gravity is transcended, for it is impossible for a music of any species to avoid indicating a behavioral pattern that

1. The chief features of the law of VTG are listed in Chapter V, p. 90.

cannot be classified with one of these three Levels of Tonal Gravity; that is, the music will behave in a manner specified by the Level of Vertical Tonal Gravity (VTG), the Level of Horizontal Tonal Gravity (HTG) or the level of Supravertical Tonal Gravity (SVTG).[1]

Nine-Tone Order Official Scales

As you know, the nine-tone order is a combination of the first three principal scales of the LC Scale. These three scales alone parent all chords of the traditional tonal spectrum's five chord categories: major, minor, seventh, augmented, and diminished.[2] For this reason the nine-tone order is referred to as the CONSONANT NUCLEUS of the LC Scale.

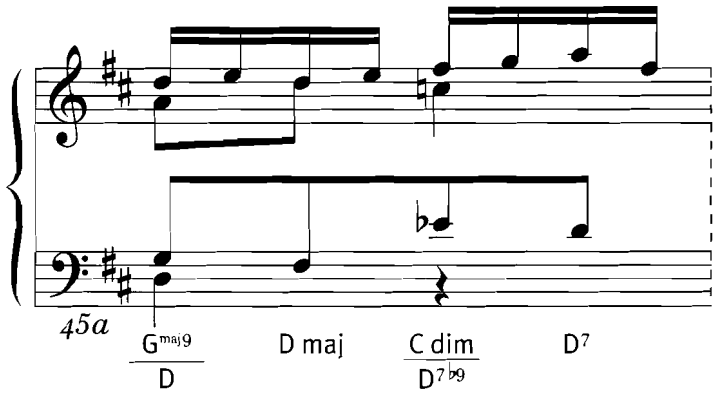
A number of official scales exist within the nine-tone order. You are free to derive your own official scales from its tones, or you may simply wish to use the nine-tone order itself as an official scale source of melody, and if you choose, harmony on the Level of Vertical Tonal Gravity. This doesn't mean that all nine tones of a particular nine-tone order must be used with a chord. It simply suggests that either of the two tones which distinguish the nine-tone order from the seven-tone order of the LC Scale[3] will be used in the manner indicated by the law of VTG, the Level of Tonal Gravity, on which this volume is focused.

1. Volume I of the LCCOTO deals only with the level of VTG; Volume II examines HTG and SVTG.
2. Augmented and diminished chords are viewed as colors of the I major chord PMG of the LC Scale (as you are once again reminded).
3. The augmented fifth and flat third degree of the prevailing LC Scale.

EXAMPLE VII:12

Fugue No. 24 in B minor

from the Well-Tempered Clavier, Book I J. S. BACH



OFFICIAL SCALE: C Lydian ♭3, mode II

C	(D)	E♭	E	F♯	G	A	B
I	(II)	♭III	III	+IV	V	VI	VII

TONAL ORDER: C nine-tone order

PRINCIPAL CHORD & PMG: D^7 (C II)

This very short excerpt from the Bach Fugue in B minor represents an area of vertical tonal gravity in which the composer exploits an official scale (undoubtedly of his own design) belonging to the nine-tone order of the C Lydian Chromatic Scale. The scale, C Lydian ♭3, features the seven tones of the C Lydian Scale (C, D, E, F♯, G, A, B) with an added flat third (E♭). It is an eight-tone scale residing within the C nine-tone order, the flat third degree being its most outgoing tone.

Within this four eighth-note bar of the C Lydian ♭3 Scale's duration, Bach's contrapuntal lines create four types of chords, all implying the tone D as their prevailing modal tonic degree. Due to the scant nature of Bach's harmonies in this example, these skeletal chords leave room for more than one vertical interpretation. However, the path of his progressional (functional) harmony is clear, and serves to narrow the field in the process of vertical labeling of individual chords.

For example, the chord on the first eighth note [D, G, A, D] is best accommodated by a G major^9 5B (C Vh/5B) interpretation. The G major^9 chord with its fifth degree (D♮) in the bass is manifested within the C Lydian ♭3 Scale as a C Vh major, 5B (G major 5B) CMG.[1]

1. CMG—Conceptual Modal Genre

The same chord also sounds like a D^{11} chord, in which case its designation would be changed to that of the C II seventh PMG. However, the definitive Lydian Tonic interval of the C II seventh PMG is D to C, and the tone C is not included in the first chord of Example VII:12.

Regardless of the labeling assigned to these two vertical interpretations, the [D, G, A, D] chord on the first eighth note of Example VII:12 resolves (in a sharp direction) to the tones F♯ and D, thereby implying and/or sounding a resolution to D major. The C Lydian ♭3 Scale accommodates D major as a C IIh major (D major) CMG.

It is also conceivable that Bach thought of this (F♯—D) chord as both a D major cadence chord final for the preceding G major 5B chord, as well as being the foundation of an implied $D^{7\,\flat 9}$ chord, as the C diminished chord on the third eighth note and D^7 chord on the fourth eighth note suggest.

The main point of Example VII:12 is to show that an official scale of the C Lydian Chromatic Scale (the C Lydian ♭3) was used as a resource within which J. S. Bach shaped the chordmodes within bar 45a of this fugue.

The use of church modes[1] enhanced by chromatic tones which extend them into what the LC Concept refers to as the nine, ten, eleven, or even twelve-tone orders of an LC Scale was not uncommon in Bach's music. Measure 33 of this same B minor fugue no. 24, Well-Tempered Clavier Book I, features the D nine-tone order related vertically to its mode VI, B minor chord in bar 33(a) and the A nine-tone order related vertically to its mode VI (F♯ minor) chord in bar 33(b). These two passages are illustrated in Example VII:13.

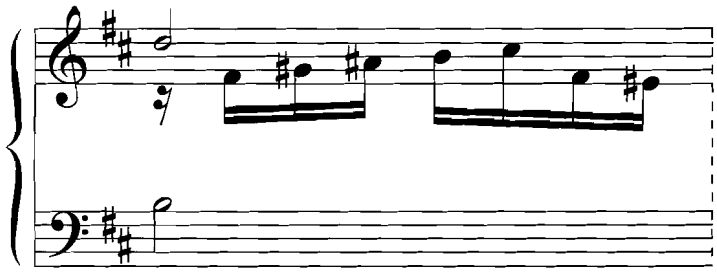
1. See Reed Gratz's article in Appendix I; also see *Harvard Dictionary of Music*.

EXAMPLE VII:13

Fugue No. 24 in B minor

J. S. BACH

from the Well-Tempered Clavier, Book I



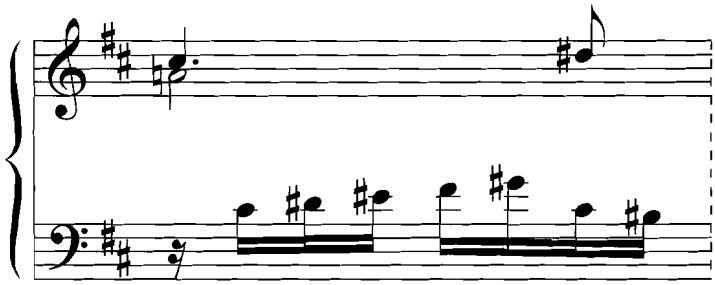
33a

OFFICIAL SCALE: D Lydian +5 ♭3

B	C♯	D	E	E♯	F♯	G♯	(A)	A♯
VI	VII	I	II	♭III	III	+IV	(V)	+V

TONAL ORDER: D nine-tone order

PRINCIPAL CHORD & PMG: B min (D VI)



33b

OFFICIAL SCALE: A Lydian +5 ♭3

F♯	G♯	A	B	C	C♯	D♯	E	F
VI	VII	I	II	♭III	III	+IV	(V)	+V

TONAL ORDER: A nine-tone order

PRINCIPAL CHORD & PMG: F♯ min (A VI)

It should be noted that Bach rejected, in principle, Zarlino's[1] broadly acclaimed idea that only two modes existed, Ionian major and Aeolian minor. "The great one continued to relate to the twelve church modes to which he added chromatic notes as he saw fit," according to Carl Philipp Emanuel Bach.

1. Gioseffo Zarlino, 1517–1590, in *Le istitutioni armoniche* (1558), expresses an opposition to major and minor triads; he renumbers Glareanus's twelve modes, placing Ionian first.

EXAMPLE VII:14

Forlane

from *Le Tombeau de Couperin*

MAURICE RAVEL

G (VI) 9 T.O. | C (VI) 9 T.O. | A (I) 9 T.O. | A (VI) 9 T.O.

Allegretto ♩. = 96

Piano

p

A LD^{maj7} / F♯

Em^{maj7} Am^{maj7} A aug maj$^{\flat 3}$ F♯m^{maj7} F♯m$^{9\flat 5}$

G (III) 9 T.O. | C (VII) 7 T.O.

G dim^{maj7} / IIIB B$^{11\flat 9}$

REPEAT OF BARS ONE AND TWO

Analysis according to the Level of Vertical Tonal Gravity

The E min^{maj7} tonic station chord on the first three beats of bar one and again on bar five indicates the tone G♮ as the Forlane's overall Lydian Tonic. In accord with the requirements of traditional music theory, the one sharp key signature represents the G major scale as the key of the music. However, the frequent use of B♯ and C♯ accidentals suggests that the music might have been placed in a two sharp signature (the G Lydian Chromatic Scale) had that option been available at the time. The G Lydian Augmented Scale is the parent scale (vertical scale of unity) of the E min^{maj7} chord in bar 1, with the tone A♯ in the melody indicating the nine-tone order of the G LC Scale.

Furthermore, the manner in which the melody of the Forlane continues to manifest is most convincingly vertical.

In analyzing music of a period in which traditional theory required a major scale key signature, as is the case here, it is perfectly acceptable to retain that key signature—one sharp in this example—while considering its key tonic (G♮) to represent the Lydian Tonic of the corresponding LC Scale, the G LC Scale, in this instance.[1]

The opening four bars of this well-known Forlane (the third piece of Ravel's suite *Le Tombeau de Couperin*) indicate the composer's conscious intent to exploit the nine-tone order itself as an official scale. Viewed from the LC Concept perspective, these four bars reveal, in their melodic and harmonic mixes, a vertical tonal organization derived from and completely within the nine-tone order of the parent LC Scale dictated by each chord (VTG). They also show a conscious intent to combine the nine-tone order's augmented fifth degree (representing the Lydian Augmented chord sound) with its flat third degree, (representing the Lydian Diminished chord sound), pitting these two opposite harmonic polarities against each other.

BAR ONE, BEATS 1–3. The first part of bar 1 features an inverted G VI (Emin^{maj7} /G Lyd aug) chord supporting a three-note melodic fragment containing the tone A♯. In just these first three beats of bar 1, Ravel establishes his underlying harmonic intent as being, in LC Concept terms, the establishment of a series of prevailing chordmode/parent LC Scale alliances on the Level of Vertical Tonal Gravity. In each of these VTG alliances the nine-tone order of the prevailing LC Scale is exploited harmonically and/or melodically.

Ravel's vertical consciousness in the Forlane is focused on combining the eighth and ninth tones of the nine-tone order of a LC Scale to counterbalance the Lydian Augmented and Lydian Diminished sounds which these tones respectively represent in each of a series of VTG alliances.

BAR ONE, BEATS 4–6 *TO* BAR TWO, BEATS 1–3. In the second half of bar 1, Ravel sounds an inverted C augmented major triad in the bass clef to accompany the melody's D♯, again combining the eighth and ninth (augmented and

1. See key signatures, Chapter VIII, p. 217–218, Examples VIII:1 and VIII:2.

diminished) tones of the C LC Scale's nine-tone order. This is completely realized in the first half of bar 2 when the interval of a fifth (A to E), sounding in the bass clef under the tones held over from bar 1, creates an A $min^{maj7,}$ chord.[1]

In LC Concept terms, relating first to the G LC Scale dictated by the E minor chord, followed by the C LC Scale dictated by the A minor chord, places Ravel's musical thinking solidly on the level of VTG. It also shows how some composers obviously were applying their own vertical tonal organization, which had to be somewhat along the lines of the LC Concept, years before the Concept's initial 1953 publication, in spite of the fact that Western music pedagogy did not and does not recognize chord/scale unity as the basis for the vertical principle of Western harmony.[2]

BAR TWO, BEATS 4–6. Ravel sounds an A augmented major (A I) chord in the bass clef on beats 4–6 of bar 2. The B♯ in the melody indicates his consistent relationship to the nine-tone order of the prevailing LC Scale dictated by each chord, in this instance the A LC Scale. It also shows his continuing interest in integrating the nine-tone order's opposite functions, augmented and diminished.

The use of B♯ as an accidental might indicate that the G major key signature of the piece serves only a perfunctory purpose. As this example shows, Ravel was not basing his well-conceived tonal organization simply on the G major scale. He was vertically conscious, actually a vertical adventurer in a profoundly imaginative way.

BAR THREE, BEATS 1–6. Always vertically aware, Ravel allows the A augmented major chord in the last half of bar 2 to serve as the essential part of the F♯ min^{maj7} chord, manifesting within the first three beats of bar 3; he then proceeds to convert that chord to an F♯ $min^{9,\flat5}$ in beats 4–6 of bar 3. This is yet another instance of the composer's vertical awareness focused on the augmented and diminished polarities within the LC Scale's nine-tone order.

1. A PMG VI minor chord of the C LC Scale.
2. The New England Conservatory of Music in Boston has offered the Lydian Chromatic Concept as a basic and advanced level jazz theory course since Gunther Schuller appointed me to the faculty in 1969.

BAR FOUR, BEATS 1–6. In bar 4, a G Lydian diminished major seventh chord is imposed on the third degree ($B^{\flat 5}$) of the G nine-tone order. The result is a nine-tone order chord on beats 1–3 of bar 4. This is followed by the $B^{11\flat 9}$ on beats 4–6 of that bar which, in turn, resolves to an E minor chord on beats 1–3 of bar 5. Within the context of the Forlane's harmonic rhythm, the E minor chord in bar 5 serves in a dual capacity as a final (tonic station) to which chords of the preceding four bars resolve, and as the initial chord of their repetition in bars 5 through 8.

This example reveals that Ravel is clearly relating to the nine-tone order of each chord's parent LC Scale in the manner prescribed by the Law of Vertical Tonal Gravity. The consistency of Ravel's use of the nine-tone order of each chord, as well as his blending of the augmented fifth and diminished thirds of each nine-tone scale, leaves no room for doubt that the composer of the Forlane was in a vertically conscious state when creating this beautiful piece of music. No one is suggesting that Ravel studied the LCCOTO; our dates of birth would make that entirely incongruous. However, viewed simply as a coincidence, it would certainly not be lacking the aspect of precognition and clairvoyance.

The important fact here is that the more interesting composers had their own personal approaches which they may have felt the need to camouflage (with key signature, for example). Nevertheless, the resemblance between the method employed by Bach and Ravel and that of the LC Concept is striking in that all three are solidly rooted in the modes and in the idea of expanding the modes into higher tonal orders with added chromatic tones.

Test One

QUESTION 1: If you were asked to create an official scale belonging to the eleven-tone order of the F LC Scale, could that scale conceivably contain fewer than eleven tones of the F LC Scale? Explain your answer.

QUESTION 2: Which two tones of the F LC Scale would be required to be included in your F eleven-tone order official scale? Explain your answer.

QUESTION 3: What single tone will not be included in the F eleven-tone order official scale? Explain why.

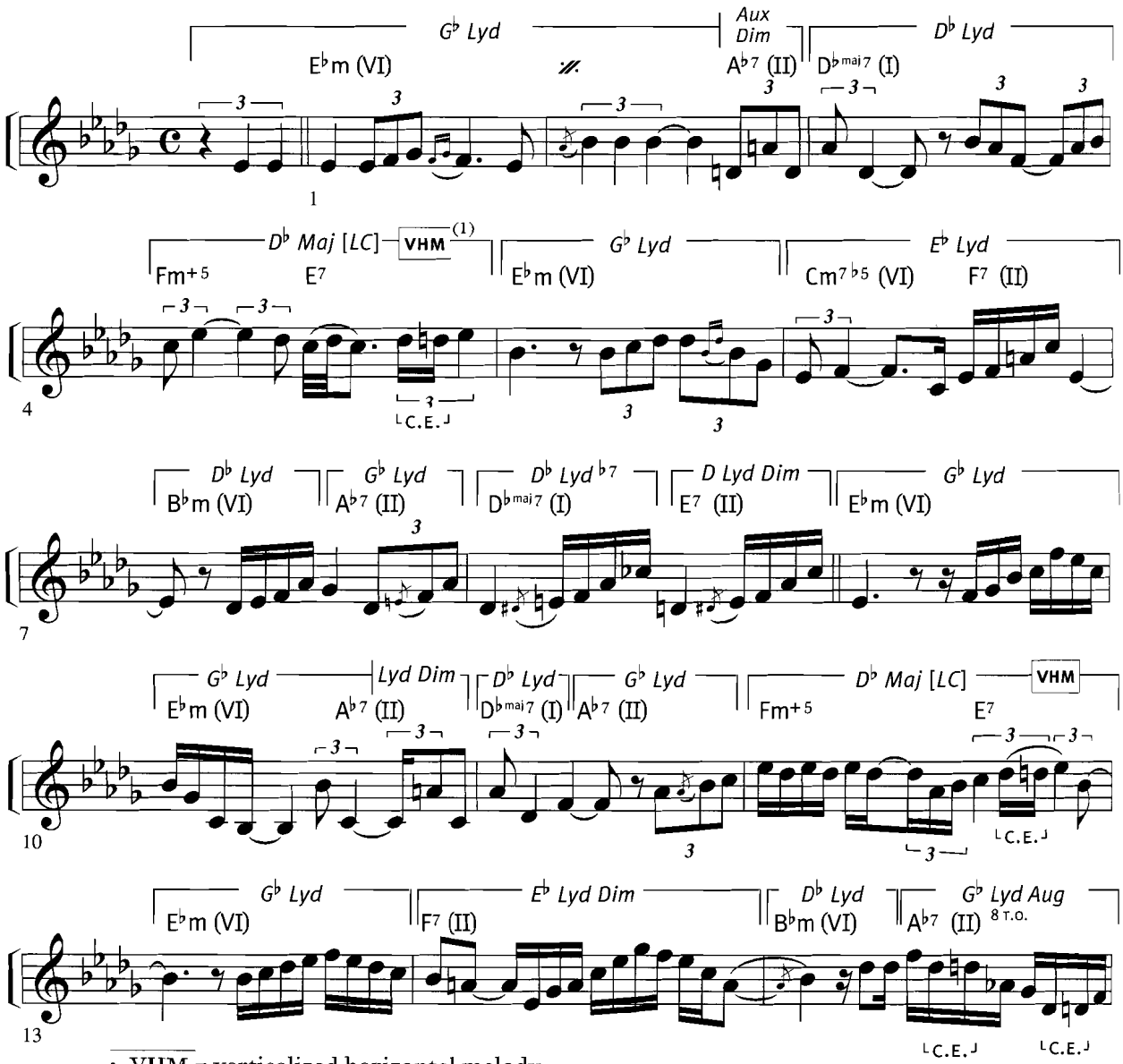
Rely on your thinking faculty totally without looking at the answers (Chapter VII, page 176) until you're satisfied that you've done your best. If you've answered them correctly, your confidence and belief in the LC Concept and its objective approach will be reinforced; if not, you'll learn from your errors.

Coleman Hawkins was one of the most influential of jazz's early vertical improvisers. His imprint on Herschel Evans, Dick Wilson, Ben Webster, Don Byas and John Coltrane remains abundantly evident. His artful and daring vertical explorations must have impressed European modernists like Ravel and Stravinsky.

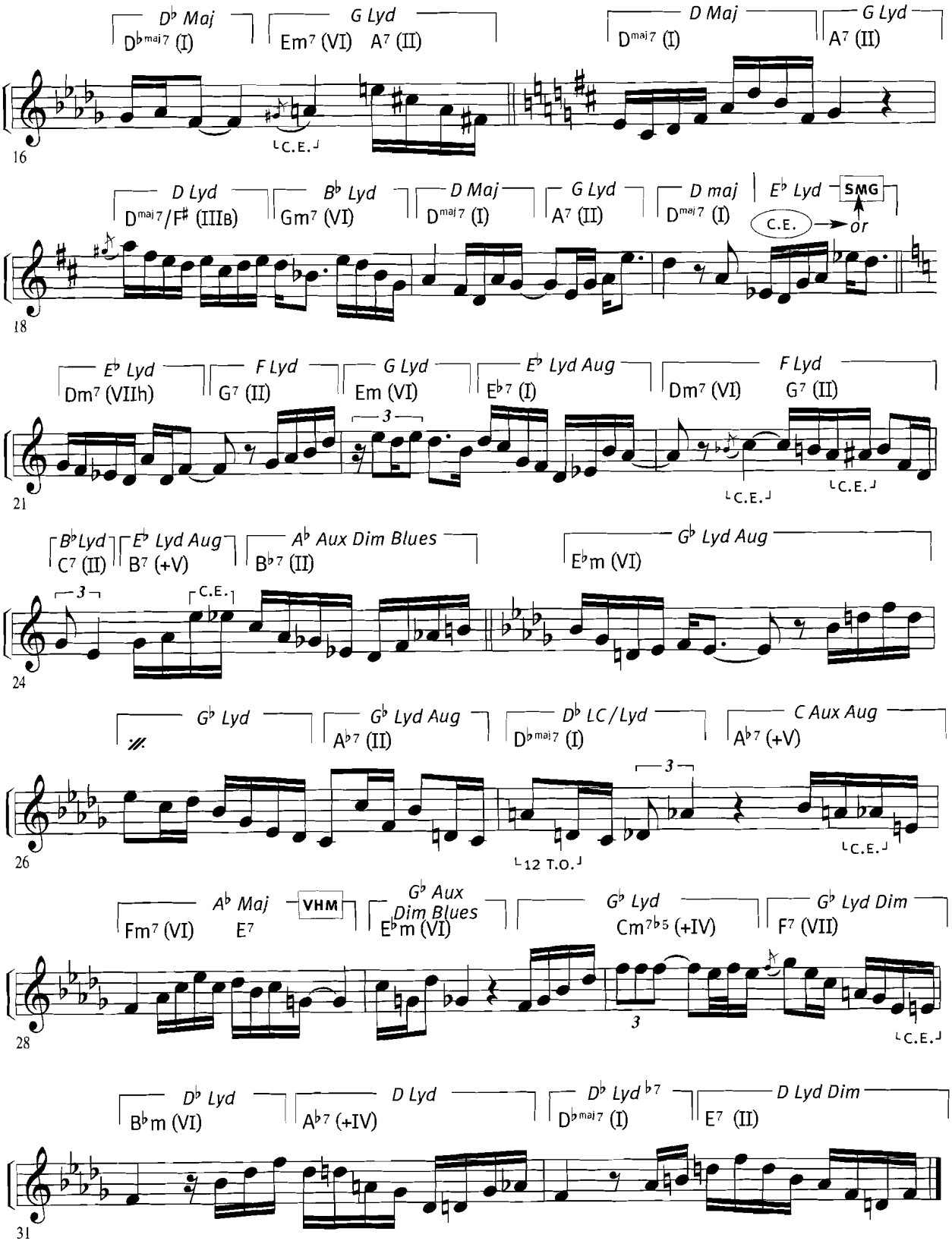
With his rich vertical consciousness, Hawkins expanded his vertical melodies into higher tonal orders while still sounding the harmonic identity of virtually each chord of a chord progression.

Body and Soul

SOLO BY COLEMAN HAWKINS



1. VHM = verticalized horizontal melody.


D♭ Maj
D♭maj7 (I)
G Lyd
Em7 (VI) A7 (II)
D Maj
Dmaj7 (I)
G Lyd
A7 (II)
16
C.E.
D Lyd
Dmaj7/F♯ (IIIB)
B♭ Lyd
Gm7 (VI)
D Maj
Dmaj7 (I)
G Lyd
A7 (II)
D maj
Dmaj7 (I)
E♭ Lyd
SMG
C.E.
or
18
E♭ Lyd
Dm7 (VIIh)
F Lyd
G7 (II)
G Lyd
Em (VI)
E♭ Lyd Aug
E♭7 (I)
F Lyd
Dm7 (VI)
G7 (II)
3
21
C.E.
C.E.
B♭Lyd
C7 (II)
E♭ Lyd Aug
B7 (+V)
A♭ Aux Dim Blues
B♭7 (II)
G♭ Lyd Aug
E♭m (VI)
3
C.E.
24
G♭ Lyd
G♭ Lyd Aug
A♭7 (II)
D♭ LC/Lyd
D♭maj7 (I)
C Aux Aug
A♭7 (+V)
3
26
12 T.O.
C.E.
A♭ Maj
Fm7 (VI) E7
VHM
G♭ Aux
Dim Blues
E♭m (VI)
G♭ Lyd
Cm7♭5 (+IV)
G♭ Lyd Dim
F7 (VII)
28
3
C.E.
D♭ Lyd
B♭m (VI)
D Lyd
A♭7 (+IV)
D♭ Lyd♭7
D♭maj7 (I)
D Lyd Dim
E7 (II)
31

Body and Soul is the definitive VTG solo that, in the late 1930's, solidly defined the distinction between Hawkins's vertical approach and Lester Young's horizontal approach to improvisation. These two approaches became the two fundamental schools of jazz improvisation, with their own ardent devotees among musicians and fans alike.

Even the two founders of these schools, Hawkins and Young, couldn't help blending something of the opposite style in their playing; occasionally Hawkins would be slightly horizontal (as in bars 4 and 12 of *Body and Soul*) and occasionally Lester Young might be vertical in some part of a solo.[1] But these two masters always remained loyal to the chief feature of their style of improvising: horizontal for Young and vertical for Hawkins.

In his vertical improvisation, Hawkins, for the most part, stayed close to the gravity of each chord, using absolute or chromatically enhanced (CE) scale melodies of the parent LC Scale dictated by each chord.

Bar 2, beat 4 shows the $G^{\flat}$ auxiliary diminished scale accommodating Hawkins's use of an interval of a 5th to imply a D^{7} chord within the $A^{\flat 7}/G^{\flat}$ LC Scale alliance.

The melody over the D^{maj7} chord in bar 20 extending through the first two beats of bar 21 is interesting because it lends itself to various interpretations provided by the Lydian Chromatic Concept. These interpretations are actually types of VTG melodies. Various types of chord/parent scale alliances manifesting on the Level of VTG can be found in Chapter VI.

A general rule governing the application of the LC Concept to analysis suggests that the most ingoing interpretation of a condition or situation is the one to choose. Using this rule as a guide in analyzing Coleman Hawkins's solo, VTG alliance[2] types 1 and 2 were chosen as the most ingoing, and, therefore, the most applicable for analyzing the music in bar 20.

As bar 20 of the solos shows, either a chromatically enhanced or a secondary modal genre type of VTG alliance may be used to explain the melody sounding over the D^{maj7} chord. The musician is therefore given the option of choosing either the chromatically enhanced melody or SMG type of VTG alliance in analyzing the melody in bar 20. If the late 1930's debut of the solo is factored into the equation, then Coleman Hawkins would have definitely

1. See Lester Young's vertical solo on *All of Me* and *Dicky's Dream* (the bridge) in Volume II.

2. VTG alliance = chord/parent scale alliance on the Level of Vertical Tonal Gravity.

considered the possibility of chromatically enhancing the D major scale with neighboring chromatic tones. On the other hand, he might have even been experimenting with superimposing various scales ($E^{\flat}$ Lydian, for example) on a given chord. This would bring his thinking to the polymodal level, (SMG, AMG, or CMG in LC Concept terms). But traditional music theory only provided the major, minor, and chromatic scale octave as a theoretical foundation, and that's not enough to embrace such complex thinking. There was no Lydian or LC Scale to relate to as an objective and cohesive explanation of the full range of polymodality. Coleman Hawkins must have persevered within, or in spite of, the limitations of traditional music theory, and, like so many other creative musicians of the jazz and symphonic persuasions, created his own experimental approaches.

Credence is given to Hawkins's polymodality in bar 21 by the directly stated $E^{\flat}$ Lydian CMG (VIIh) melody sounding over the D minor chord in that bar. The musician is therefore given the option of choosing either the chromatically enhanced melody or CMG type of VTG alliance in analyzing the melody in bar 21.

The $E^{\flat 7}$ chord in bar 22, beats 3 and 4, is treated as an AMG (I) major$^{\flat 7}$ chord with an $E^{\flat}$ Lydian Augmented Scale melody sounding over it. The B^7 chord on beat 2 of bar 24 is sounded as an AMG +V/$E^{\flat}$ Lydian Augmented Chordmode, and the $A^{\flat 7}$ chord on beats 3 and 4 of bar 27 sounds as an AMG +V, C auxiliary augmented scale chord.[1]

The essence of Hawkins's improvisational style was vertical, focusing on each chord to shape a melody which conveyed the harmonic genre of that chord. This would certainly have led to chord/scale alliances. However, the prevailing theoretical system for all of Western music, including jazz, was based on only two scales: major and minor.

On beats 1 and 2 of bar 28, Hawkins's melody very clearly spells an F minor^7 chord. Therefore, it is not unreasonable to assume that Hawkins derived his melody in bar 28 from the $A^{\flat}$ major scale as the result of interpreting the F minor^7 chord as the "relative minor" chord of the $A^{\flat}$ major scale.[2]

The overrun of the $A^{\flat}$ major scale melody into the E^7 chord on beats 3 and 4 of bar 28 was probably the result of already being in that scale on the first

1. See Chart A and Chapter V.
2. See bar 28 of Hawkins's solo.

two beats of the bar. Nevertheless, those last two beats of the melody do sound a vertical association with the E^7 chord that cannot be ignored simply by defining the bar 28 melody as a single condition of HTG featuring the $A^\flat$ major scale as the HTG melody (tonic station modality) in that bar. Bar 28 of Hawkins's solo must be perceived in the context of a basic VTG analysis wherein the $A^\flat$ major scale melody of that bar is treated as a verticalized horizontal melody, that is, a horizontal scale melody with vertical implications.

This verticalization of a horizontal member scale may be the result of the presence of the VTG area of a single chord which the scale sounds in a horizontally thrusting manner[1] or, by comparison, the Verticalized Horizontal Scale Melody (VHSM) is the result of its overrunning and spilling into a vertical encounter with a benign, incidental chord serving merely as a color of that melody. The incidental chord (E7 in this case) slightly bends the horizontal melody inwards toward its own sound, but not enough to divert it from its horizontal intent to sound the identity of the approaching tonic station, $E^\flat$ minor in this case.

Bars 4, 12, and 28 of the *Body and Soul* solo represent perfect examples of this type of verticalized horizontal scale melody. In each of these three examples, vertical engagement of the horizontal scale melody results from the melody's spillover into the E7 chord. Therefore, beginning with this present situation and applicable hereafter in all future situations of this type, *the benign overrun chord vertically engaged by a VHSM need not be assigned a vertically accountable roman numeral.* This will allow the VHSM to clearly sound as the Dominant Melody it is most likely to be in this situation.

Volume II, Chapter IX, should shed light on the reason why verticalized horizontal scale melodies tend to sound a somewhat ingoing relationship with their benign engaged chord. This and the ensuing information are not meant to inhibit the creative musician's need to experiment. It simply invites the attention to existing boundaries between types of tonal behavior within the Lydian Chromatic tonal spectrum. It does not forbid the musician from crossing boundary lines, as long as there is awareness of the prevailing Level of Tonal Gravity (VTG, HTG or SVTG) and its law. Transcending the law of the prevailing Level of Tonal Gravity places the music on a different

1. See Coltrane's *Giant Steps* solo, bar 3.

tonal gravity level and behavioral mode. In the process of analyzing music within any of the LC Concept's three levels of tonal graviy, it is advisable to try to choose the most ingoing and least complex explanation. Often the Concept itself will direct the student to the music's most logical explanatory path.

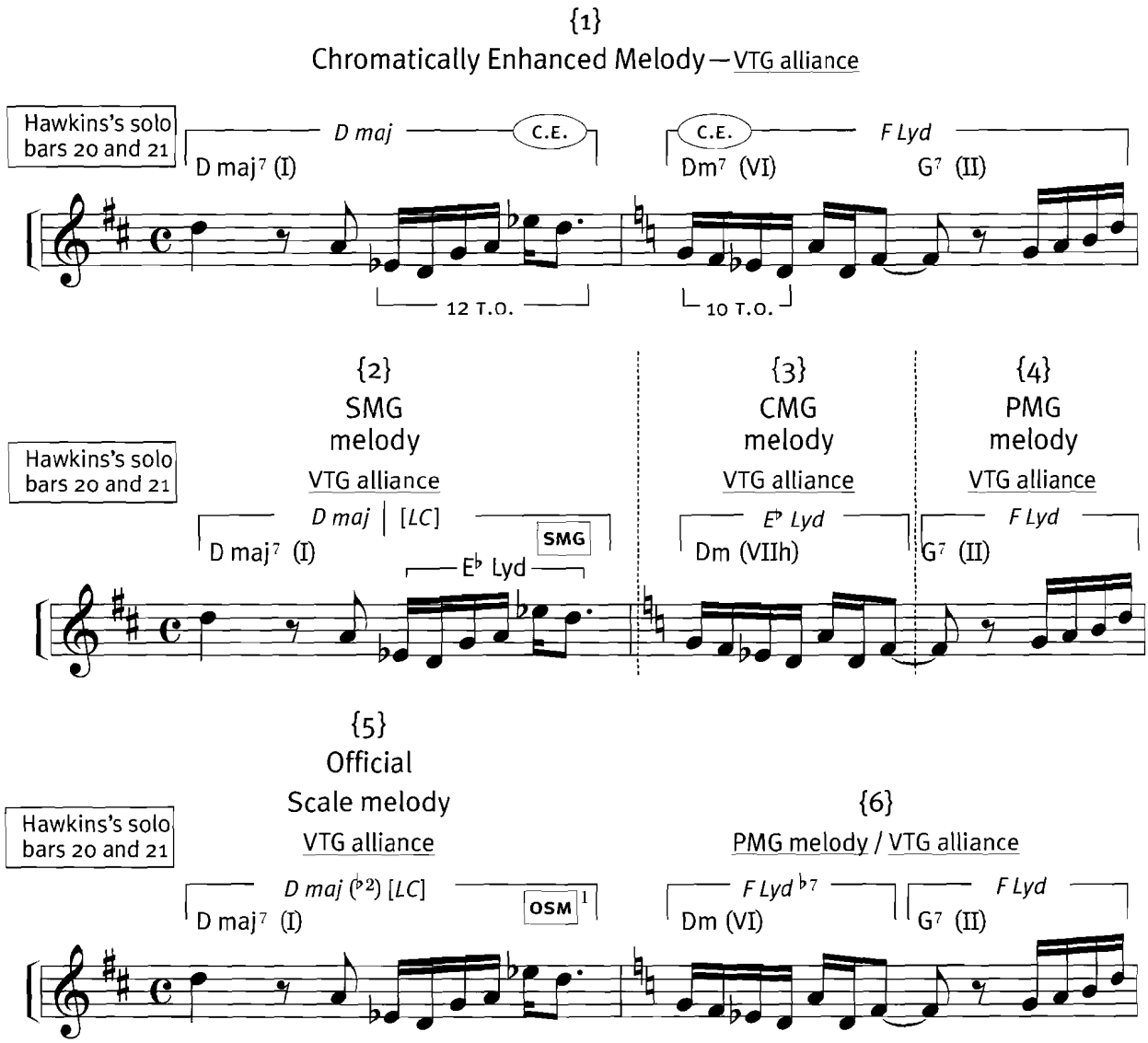
Various Types of Chord/Parent Scale Alliances Manifesting on the Level of Vertical Tonal Gravity

In dealing with VTG alliances on the Level of VTG, it is important to understand that each VTG alliance represents a type of melody capable of manifesting its type on the Level of VTG. The following examples are aimed at familiarizing the musician with various types of VTG alliances (chord/parent [LC] Scale alliances) applicable on the Level of Vertical Tonal Gravity. These examples also reveal several ways to interpret the same two bars (20 and 21) of the Hawkins solo. The examples on pages 166 and 167 demonstrate this.

Five of these types of melody manifest within the primary prevailing LC Scale dictated by the gravity centering element (GCE) for the Level of Vertical Tonal Gravity. They are: (1) chromatically enhanced melody; (2) secondary modal genre melody; (4) primary modal genre melody; (5) official scale melody; and (7) verticalized horizontal melody.

VTG alliance types (3), (8), and (9) place a prevailing chord and accompanying melody in a remote conceptual or alternate parent LC Scale environment. It is very important to understand and respect this difference between VTG alliance types.

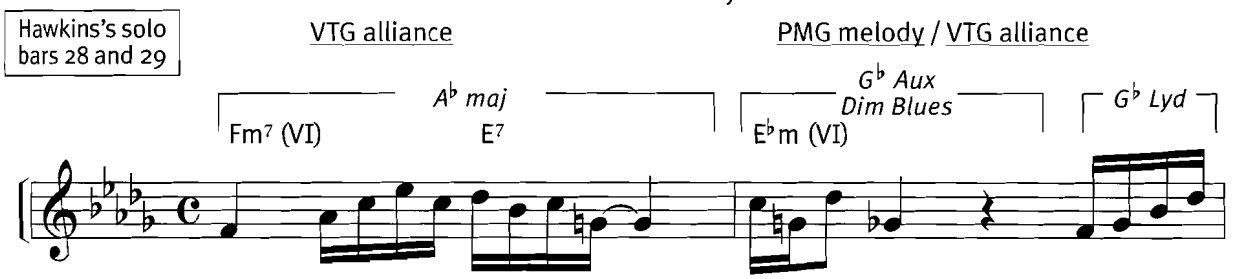
By now you know that the GCE for the level of vertical tonal gravity is the prevailing chord (chord of momentary focus). Each of these species of melodies has a best way to be represented on the Level of VTG.



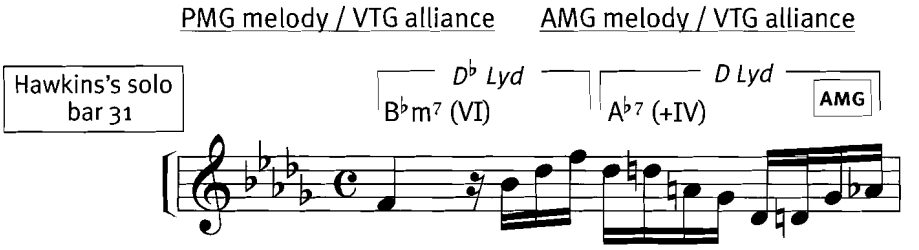
If you discover a VTG alliance (chord/parent [LC] Scale alliance) which appeals to your aesthetic judgment, but fail to find, in that chord's primary modal tonic degree category on Chart A, a modal tonic degree roman numeral justification for the alliance's existence, feel free to add the newly discovered roman numeral to the others in that category on Chart A. However, this must be done in a manner that separates your SMG roman numeral from PMT, CMT, and AMT roman numerals, since they all have different functions.

1. OSM = official scale melody.

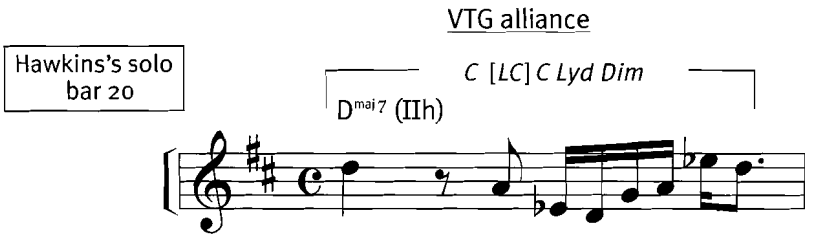
{7}
Verticalized
horizontal melody



{8}
AMG Melody



{9}
CMG Melody



The Lydian Chromatic Concept was first published in 1953, so it is not likely that jazz improvisers could have explained the Levels of Vertical and Horizontal Tonal Gravity in Concept terms. However, it was the jazz improvisers manifest destiny to be led, by intuition, to the discovery of these two fundamental states of Western music. What, if not intuitive intelligence, could have led Hawkins and Young to so clearly define these two intrinsic qualities of Western music? Each of these great improvisers had a highly developed, personal methodology that crystallized into its own conscious way of navigating the Western chordstream: vertical for Hawkins and horizontal for Young. The LC Concept confirms this.

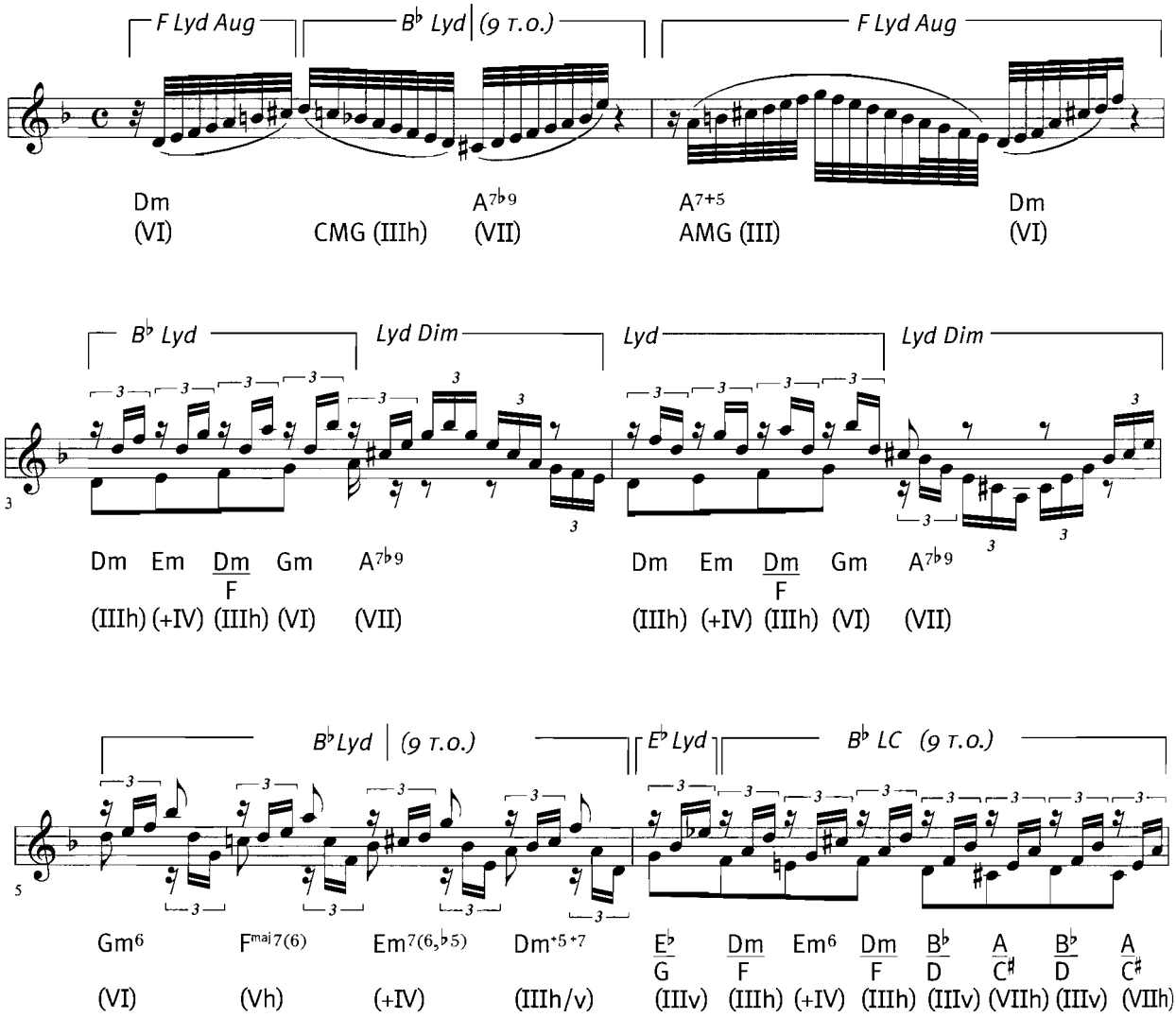
To the author this makes the statement that definitions of intelligence that exclude intuitive intelligence can be regarded as nothing but the pouring of an intellectually empty vessel into a psychological void—again omitting an existing reality (although unseen) that has guided and given permanence to the soul of humanity down through the ages.

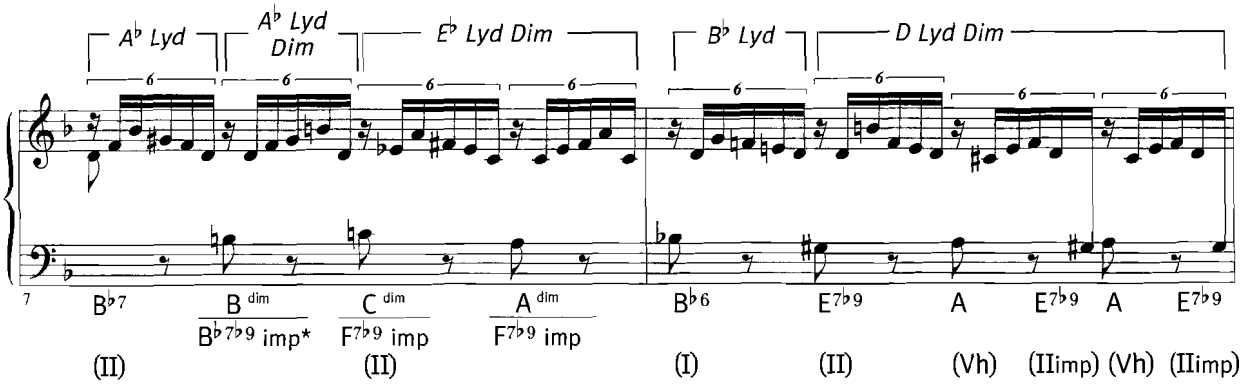
EXAMPLE VII:16

Chromatic Fantasy and Fugue

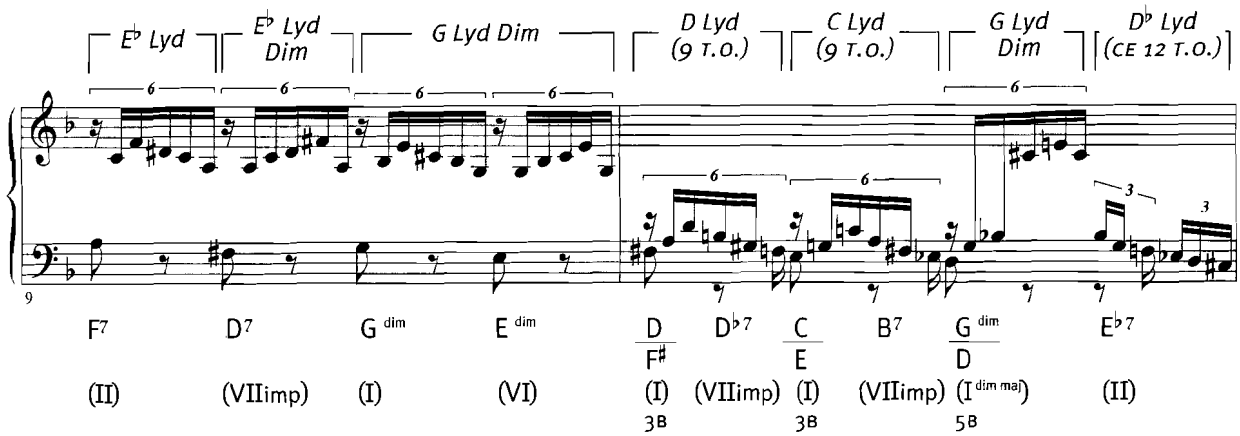
BWV 903 JOHANN SEBASTIAN BACH

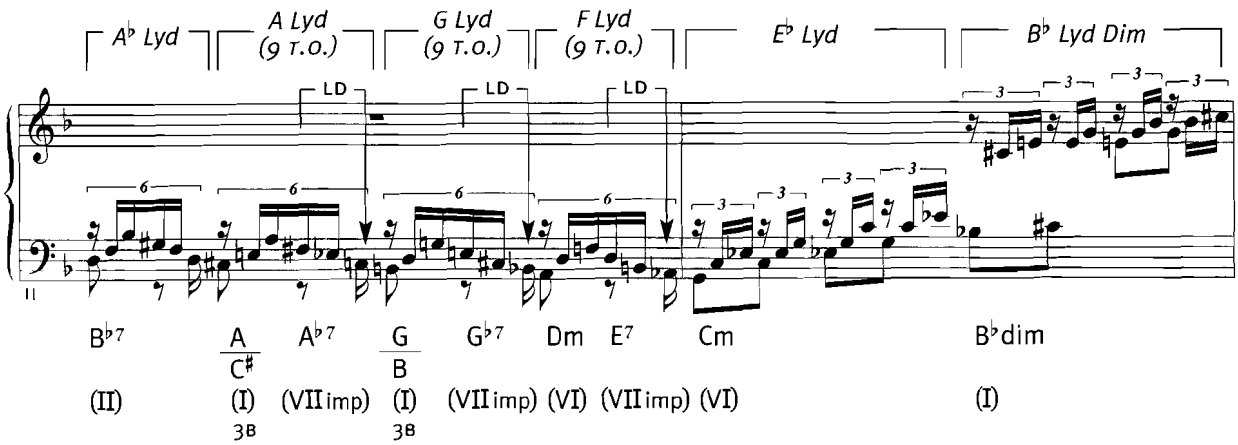
Fantasy: bars 1–12





*imp = the prevailing chord is implied without the presence of its root.





Chromatic Fantasy and Fugue: Level of Vertical Tonal Gravity Analysis Bars 1-12

As is most often the case, Bach employs a vertical melody to express the adventuresome harmonic and inner-modal harmonic progression of the *Fantasy*. On a supra-vertical level, the Fantasy is centered on a D minor tonic station overall. Particularly interesting are the parent LC Scale alliances formed with D minor in bars 1 and 2.

Bar 1 begins with a vertical reference to D minor as mode VI of the F Lydian Augmented Scale. Beat 2 features the same D minor chord sounding as CMG IIIh minor[1] of the B♭ Lydian Scale, the overall key of the music. (See key signatures, page 217).

Beat 3 sounds $A^{7\flat 9}$ as an alternate modal genre (AMG) VII seventh chord[2] of the B♭ LC 9-tone order. The A^{7} chord is then sounded as AMG III by F Lyd Aug (as $A^{7\ +5}$) on beats 1 and 2 of bar 2 and then resolved back to the VI minor^{maj7} on beat 3 (D min^{maj7}). Bach often used the Lydian Augmented Scale, mode VI in Vertical Tonal Gravity Alliances (VTGA) based on mode VI minor chords.

Bars 3–6 begin a vigorous exploitation of the inner modal harmonies within the B♭ LC Scale's nine-tone order; the only exception occurs on beat 1 of bar 6 with E♭ IIIv ($E\flat^{maj}$/G)—the Lydian Scale located one fifth in a flat direction, which returns promptly to the B♭ LC Scale,[3] the overall prevailing LC Scale for the remainder of the bar

Bars 7–11 feature a long stream of non-final chords of various LC Scales, many diminished in nature, which ultimately cadence to the flat-lying[4] C minor (E♭ VI) tonic station in bar 12. Again, the nine-tone order provides many of the exotic verticalities which contribute to the overall vertical character of the piece.

The fact that virtually each chord of the *Chromatic Fantasy* is expressed simply by a monophonic melody is a testament to Bach's high level of "verti-

1. CMG is the abbreviation for Conceptual Modal Genre.
2. AMG is the abbreviation for Alternate Modal Genre.
3. Overall prevailing LC scale is the Concept's term for the key of the music.
4. C minor belongs to PMG VI minor of the E♭ LC scale which lies one fifth down in a flat direction from the B♭ LC scale, the key of the music indicated for *Chromatic Fantasy*.

cal consciousness." In this respect Bach and Coltrane have like minds. Without any accompaniment whatsoever, Coltrane's solo on his composition *Giant Steps* would clearly define each chord of the *Giant Steps* chordstream.

Bach and Coltrane also shared "horizontal consciousness" in their mutual interest in finding interesting and unusual ways to resolve a chord progression to a tonic station (major or minor cadence center). PROGRESSIONAL HARMONY[1] is a Horizontal Tonal Gravity phenomenon to be examined in Volume II of the LCCOTO. If they ever meet, Bach and Coltrane might share an enjoyable kinship of mind. Bach might enjoy the challenge of improvising on the *Giant Steps* chord progressions and Coltrane, the challenge of composing a Bach-style fugue.

Test 2

Construct your own ingoing vertical melody based on the chords of the test on the following page. Your melody should be derived from the parent LC Scale dictated by each chord, i.e., the chord of the moment (or prevailing chord). Within the context of each prevailing chord/parent LC Scale alliance,[2] you are free to color the chord with its primary parent scale, or you may choose any of the eleven member scales of that prevailing LC Scale. Your melody can be either an absolute or chromatically enhanced scale melody, or you can feel free to impose your own official scale on a chord as long as it contains the Lydian Tonic of the current prevailing LC Scale. You may also designate alternate parent LC Scales to a prevailing chord. In doing this test you'll need to execute the procedures used in preceding tests. These are:

1. In the parenthesis next to each chord, note the PMT, AMT, or CMT roman numeral representing the degree occupied by the root of the chord in the parent [LC] Scale that degree indicates.
2. Within the designated parent [LC] Scale, proceed to note, in a bracket above the chord, the principal, member, or official scale you've chosen to be the source of a melody sounding (or coloring) the prevailing chord.

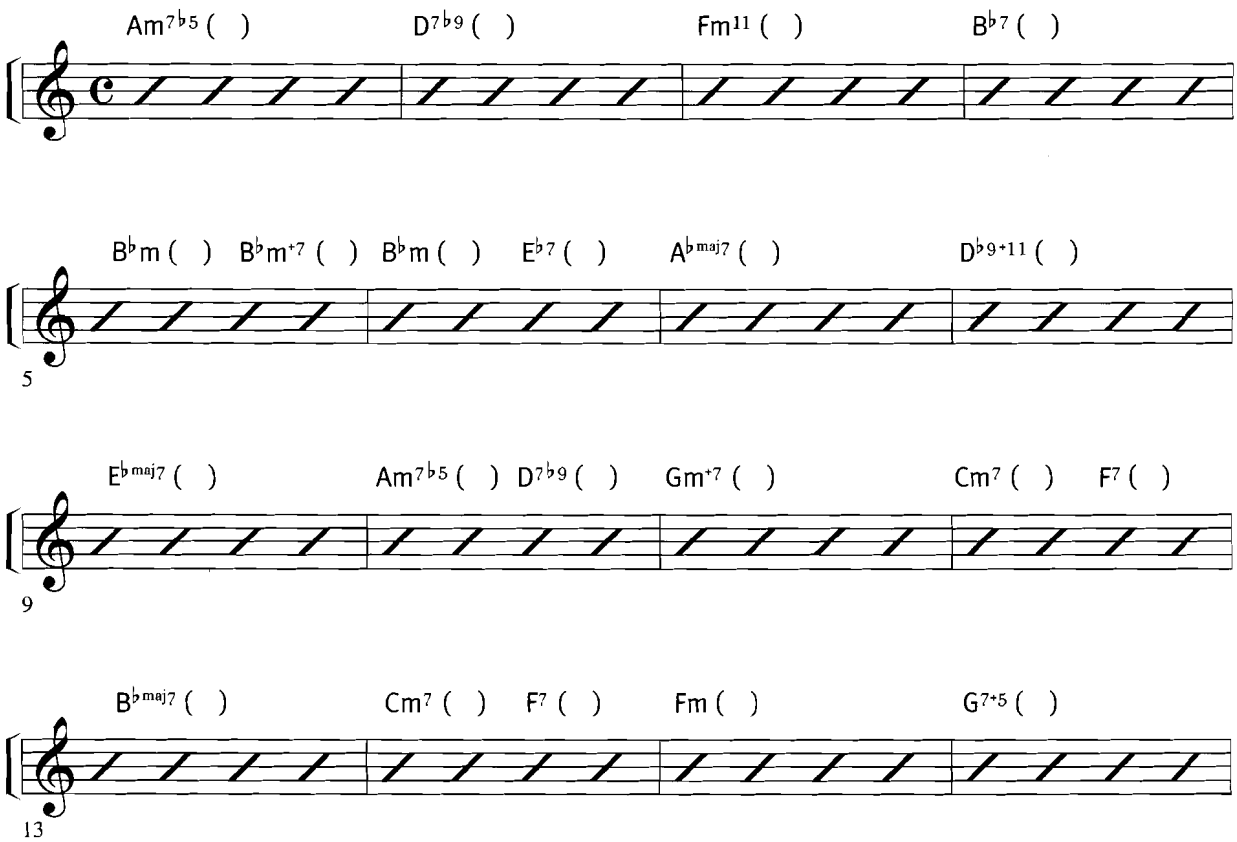
1. Progressional harmony is the LC Concept's term for traditional theory's functional harmony. It is an aspect of Horizontal Tonal Gravity due to the linear time dependency of its basic function; that function being the resolution of non-final chordmodes to finals, unfolding in a linear time span in a manner imposed by the element of harmonic rhythm.
2. The alliance formed between the prevailing chord and its designated primary, alternate or conceptual parent [LC] Scale.

When you are preparing Test 2, remember to leave room between systems for your bracketed parent scales. You also may want to consider that it is quite common for two successive chords of a progression to have a melody coming from the same parent scale; a situation that might call for extending the parent scale bracket over two or more bars.[1]

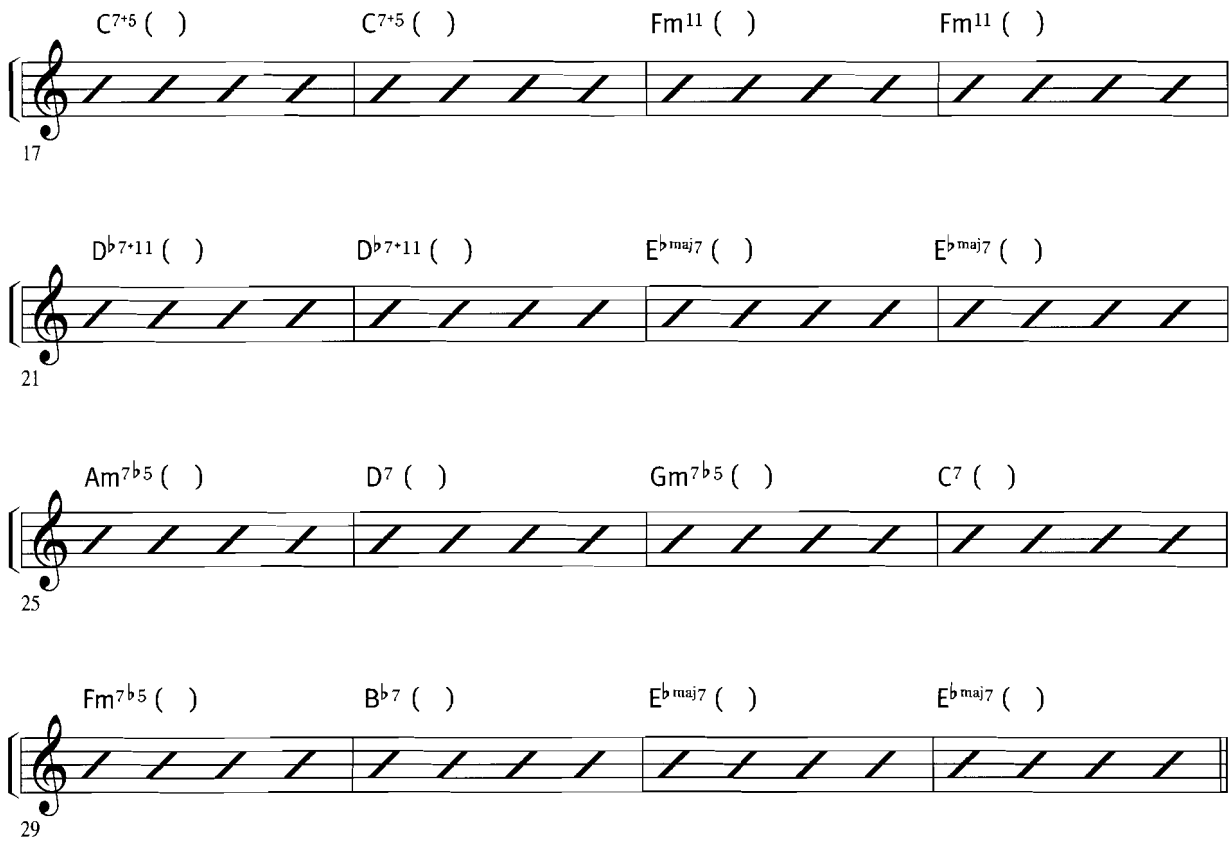
Also remember to use the letters C.E. to indicate the presence of non-scale tones used to chromatically enhance the melody. Note the tonal order of such tones (as in 9 T.O., 10 T.O, 11 T.O., 12 T.O.).

Compare the results of Test 2 with the complete analysis of Hank Mobley's Stella by Starlight solo on page 174 of this chapter.

Please remember that associating the chord with its proper primary modal genre on Chart A reveals its primary modal tonic degree (PMT), as well as more outgoing modal tonic choices (alternate and/or conceptual).



1. A case in point is over bars 1 and 2 of musical Example 17 on page 174.

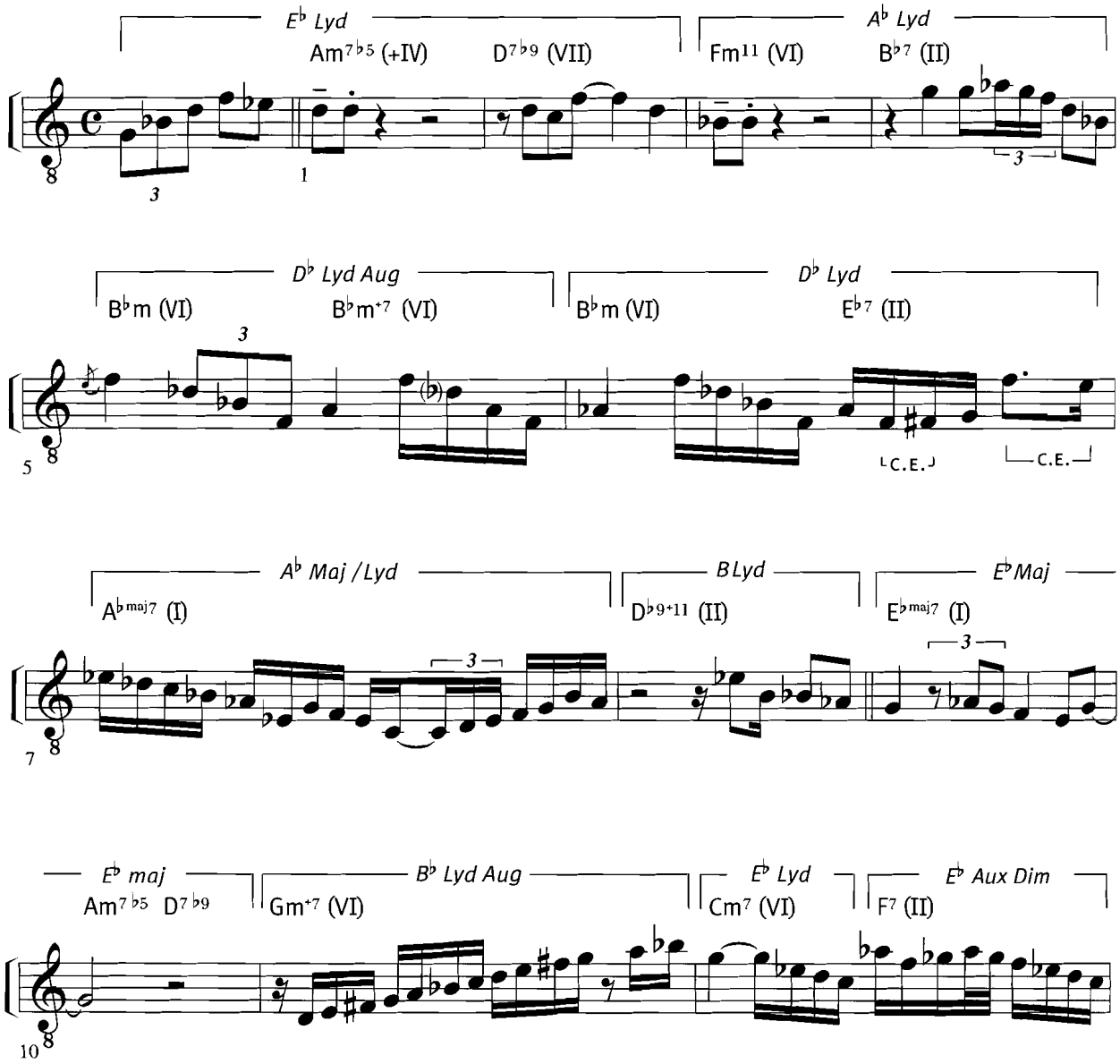

C7+5 ( )
C7+5 ( )
Fm11 ( )
Fm11 ( )
17
D♭7+11 ( )
D♭7+11 ( )
E♭maj7 ( )
E♭maj7 ( )
21
Am7♭5 ( )
D7 ( )
Gm7♭5 ( )
C7 ( )
25
Fm7♭5 ( )
B♭7 ( )
E♭maj7 ( )
E♭maj7 ( )
29

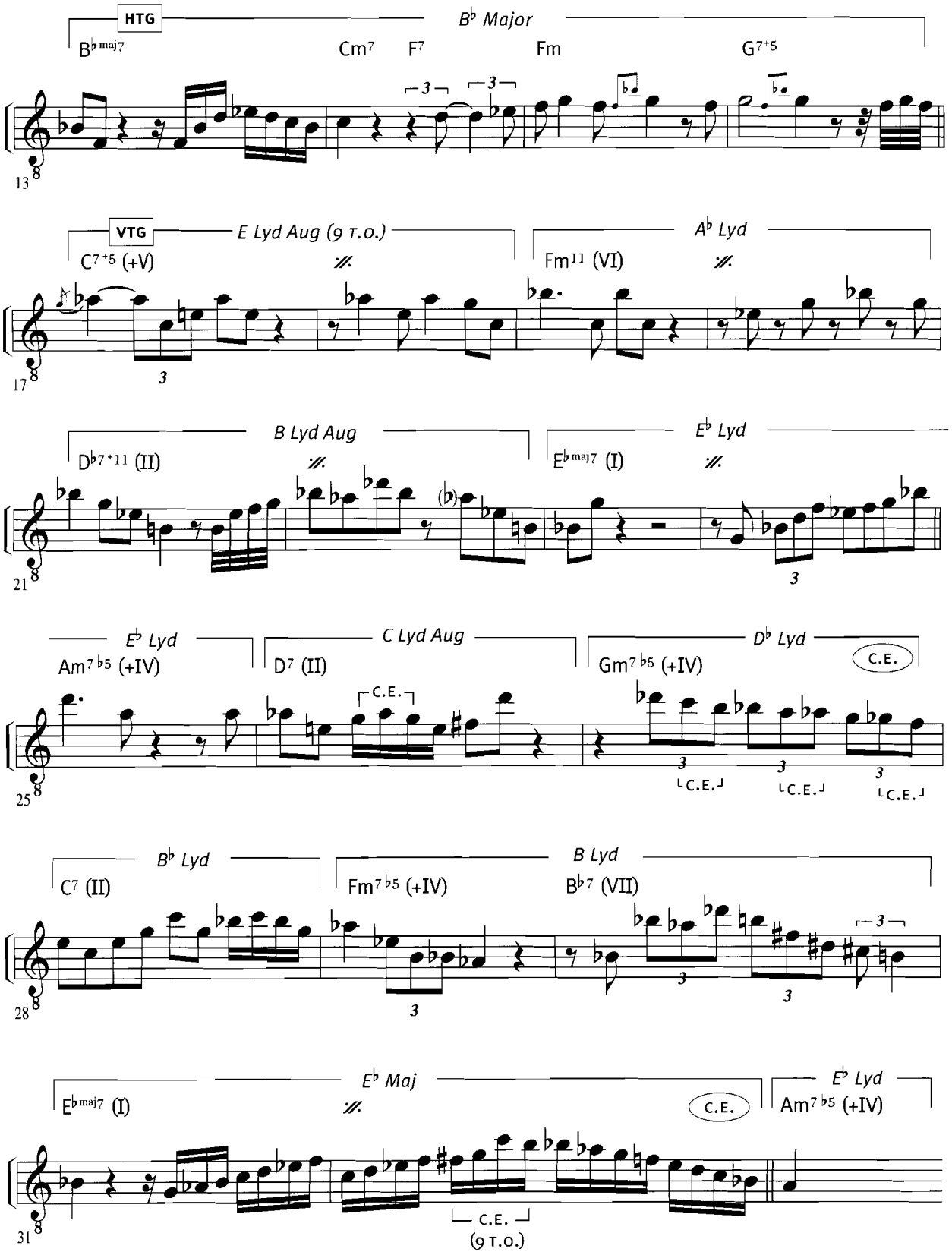
In the Lydian Chromatic Concept, you are under the law of tonal gravity and gravity is a huge law. The bigger the law, the greater the freedom. Freedom is not the absence of law; it is prevalence of a big law over a plethora of small laws. Lack of freedom is therefore the reverse: the prevalence of numerous smaller laws over a big one. The logical conclusion being that tonal gravity is perhaps one of many derivative manifestations of cosmic gravity.

EXAMPLE VII:17

Stella by Starlight

SOLO BY HANK MOBLEY




HTG
B♭ Major
B♭maj7
Cm7
F7
Fm
G7+5
13
VTG
E Lyd Aug (9 T.O.)
C7+5 (+V)
A♭ Lyd
Fm11 (VI)
17
B Lyd Aug
D♭7+11 (II)
E♭ Lyd
E♭maj7 (I)
21
E♭ Lyd
Am7♭5 (+IV)
C Lyd Aug
D7 (II)
C.E.
D♭ Lyd
Gm7♭5 (+IV)
C.E.
25
B♭ Lyd
C7 (II)
B Lyd
Fm7♭5 (+IV)
B♭7 (VII)
28
E♭ Maj
E♭maj7 (I)
C.E.
E♭ Lyd
Am7♭5 (+IV)
C.E.
(9 T.O.)
31

Answers to Test 1

(from page 159, Chapter VII)

QUESTION 1: If you were asked to create an official scale belonging to the eleven-tone order of the F LC Scale, could that scale conceivably contain fewer than eleven tones of the F LC Scale? Explain your answer.

ANSWER 1: Yes, because the tonal order to which any group of tones belongs is not determined by the number of scale tones, but by the tonal order indicated by the most outgoing tone of that group.

QUESTION 2: Which two tones of the F LC scale would be required to be included in your F eleven-tone order official scale? Explain your answer.

ANSWER 2: The Lydian Tonic F is the first of two tones required in the structure of any official scale of the F LC Scale's eleven tone order. All official scales must be rooted on the Lydian Tonic of the LC Scale. The Lydian Tonic mode of an official scale is the cause of it being classified with the ingoing scales of the LC Scale, due to the tendency of the tones of that mode to yield in support of the tonical integrity of the Lydian Tonic.

B♭ is the second tone required for the structure of any eleven-tone order official scale based on an F Lydian Tonic. As the eleventh tone in the evolutionary order of the LC Scale,[1] the fourth degree is the most outgoing and, consequently, the most definitive tone of the LC Scale's eleven-tone order.

QUESTION 3: What single tone will not be included in the F eleven-tone order official scale? Explain why.

ANSWER 3: F♯ (or G♭) will be the tone excluded from an eleven-tone order official scale of the F LC Scale because, being the latter's flat second degree, its presence in an official scale immediately defines it as a twelve-tone order official scale of the F LC Scale.

Now proceed to create your own eleven-tone order official scale derived from the F LC scale.

1. Western order of tonal gravity.

The *New York, New York* Recording

A number of recorded compositions and events between 1947 and 1961 no doubt established the necessary credentials needed for my acceptance into what, in retrospect, I see as the fiery inner circle of a full-blown, glorious, innovative renaissance period in American music and American art in general.[1] The late Milt Gabler, the head of Decca Records, was the grand model of what a record company executive should be. Along with Orin Keepnews and Bill Graur of Riverside Records, the Weinstocks of Prestige, Alfred Lyons of Blue Note, Creed Taylor, Bob Thiele (Impulse), John Hammond and Bruce Lundvall (Columbia), Milt Gabler understood his role as a caretaker of the musical art. He understood the economics of quality, and that the foundation of a record company had to rest on high quality. That's why he signed Billie Holiday, Louis Armstrong, Duke Ellington, Ella Fitzgerald and many others. Gabler, the dean of record company CEOs, founded the Decca catalogue on quality first—and then on money-making quantity.

When Milt heard *Stratusphunk* and other pieces I'd done for Hal McKusick's Decca albums, he informed me that his door was open for any projects I had in mind.

I always loved New York and decided to express my love for it in a tone poem that was centered on life in the big city, and the struggle that musicians faced in trying to survive there. I hired jazz poet Jon Hendricks to write a script that dealt with different aspects of New York life. Jon would introduce each aspect with his prose; that idea was then expressed musically. It would be a big band album that featured Max Roach, Bill Evans, John Coltrane, Art Farmer, Milt Hinton, Barry Galbraith, Phil Woods, Ernie Royal, Bob Brookmeyer, Frank Rehak, Doc Severinsen, Benny Golson, Al Cohn, Hal McKusick, Charlie Persip and others. Milt considered it an exciting idea and gave the go ahead.

The album won the French *Oscar du Disque de Jazz* award in 1962 and remains on a number of "All-Time Great Album/CD" lists.

The first session was almost a disaster. We started with *Manhattan* and I must say that the music, as played by that band, sounded startlingly good. But when we got to the tenor solo, Coltrane floundered, and actually refused

1. See Discography.

to play. He called for a break while he took the music over to a corner of the church studio and began to practice the chord changes I had written. With a big band of high-salaried New York City studio musicians and jazz stars, a "break" is not what the producer needed to hear.

At the time, Coltrane was a member of Miles Davis's sextet with Cannonball Adderley, Red Garland, Philly Joe Jones, and Paul Chambers. Even though Coltrane had received a lot of publicity, he was still the new kid on the block in the studio jazz scene. A few musicians showed their annoyance and started saying that Coltrane couldn't read chord changes. This was embarrassing for Coltrane and for me. But what could I say?

The Bop period had shown just how complex jazz could be. Coltrane had a complex mind (as did Charlie Parker, Dizzy Gillespie, Max Roach, Thelonious Monk, and so many jazz musicians throughout its history). His later album *Giant Steps* proved that. This was a time when he was working on everything from the open modal style of Miles Davis to his own intensive chord substitution methodology.

It took a few years, but I finally figured that since Coltrane hadn't studied the music prior to the session, he hadn't considered the chord substitutions I'd made in the process of arranging *Manhattan.*[1] This gave him the compound problem of making chord substitutions on my chord substitutions which, in the interest of his own artistic integrity, forced him to put himself—much more than me—in what must have been a painfully embarrassing situation. He later told me that he didn't like this solo. That caused me to hear it negatively (as Coltrane compromising). But that was only for a brief period. It is a fantastic solo. I heard Trane entering his solo in his typical manner, especially following the heavy, building brass fanfare. So I composed the first six beats of the solo in the way I heard him entering. This also had to do with trying to spare an explanation of the D^{maj7} $B^{\flat 7+5}$ (+V) alliance occuring on the first two beats of bar 2.

Coltrane had expressed an interest in the LC Concept when we met at my Bank Street apartment to discuss his involvement in the *New York, New York*[2] recording. Neither Bill Evans nor Coltrane studied with me formally.

1. The Smithsonian Collection of Recordings, RC/RD 108 ($45.00) / S25-17618, Disc 4, Cassette Side H. The Smithsonian Institution Press, Washington DC 20560
2. Reissued on the Impulse label, catalog number IMPD-278.

However, the LCCOTO book was easily available and appears to have been clearly approachable to serious-minded musicians on Bill and Coltrane's level—Toru Takemitsu, Miles Davis, Eric Dolphy and many more. In its entirety, here is John Coltrane's solo on *Manhattan.*

EXAMPLE VII:18

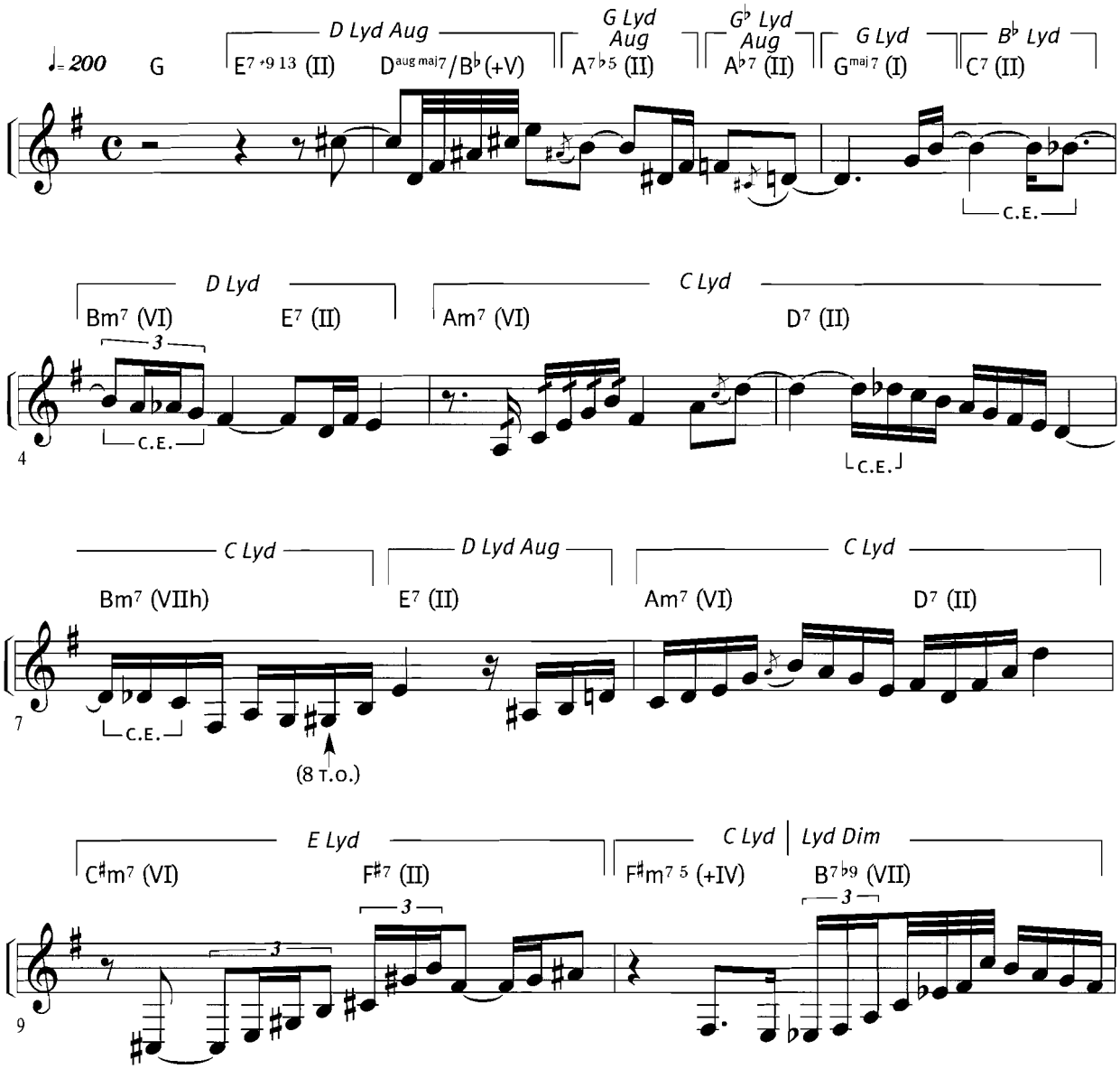
Manhattan

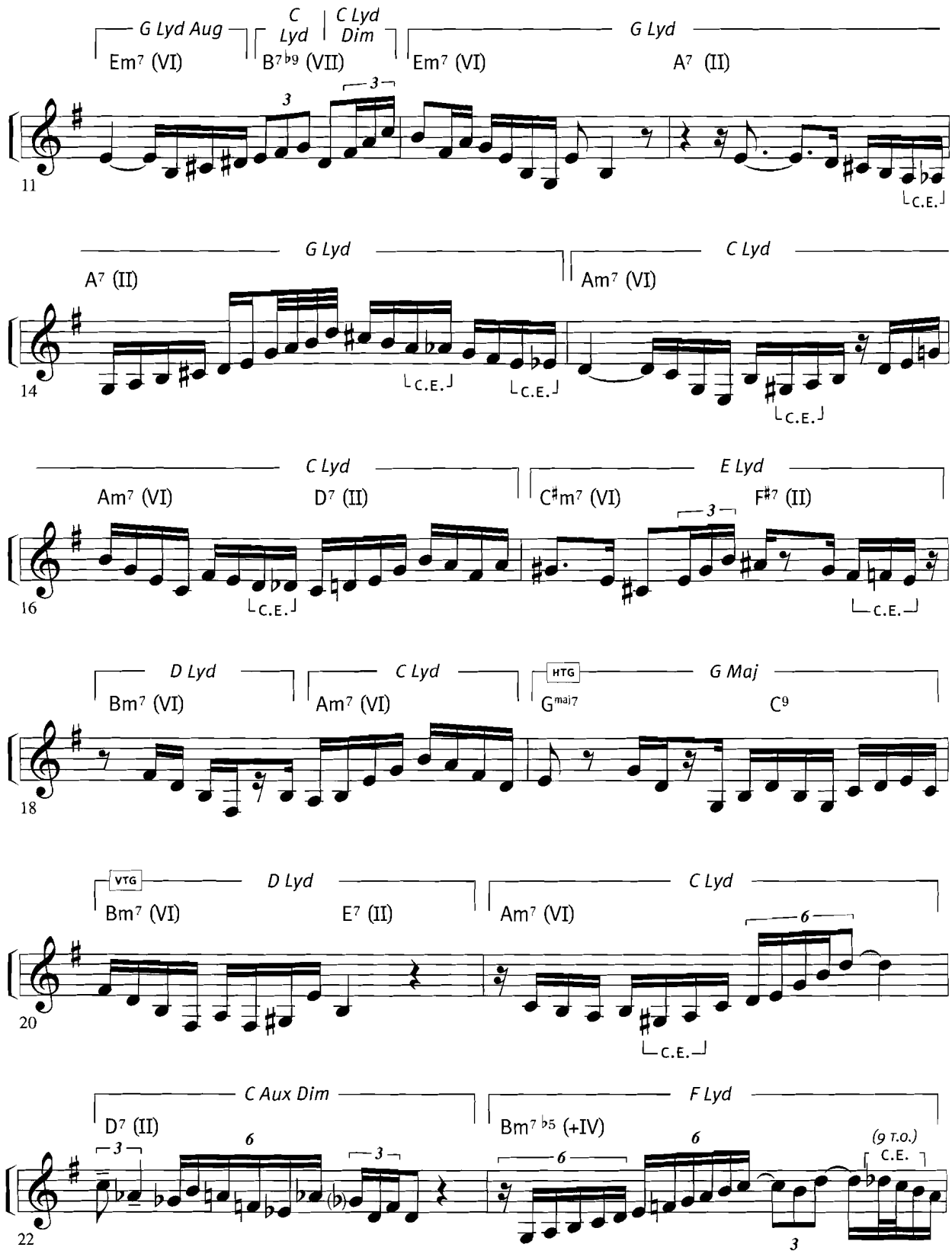
SOLO BY JOHN COLTRANE

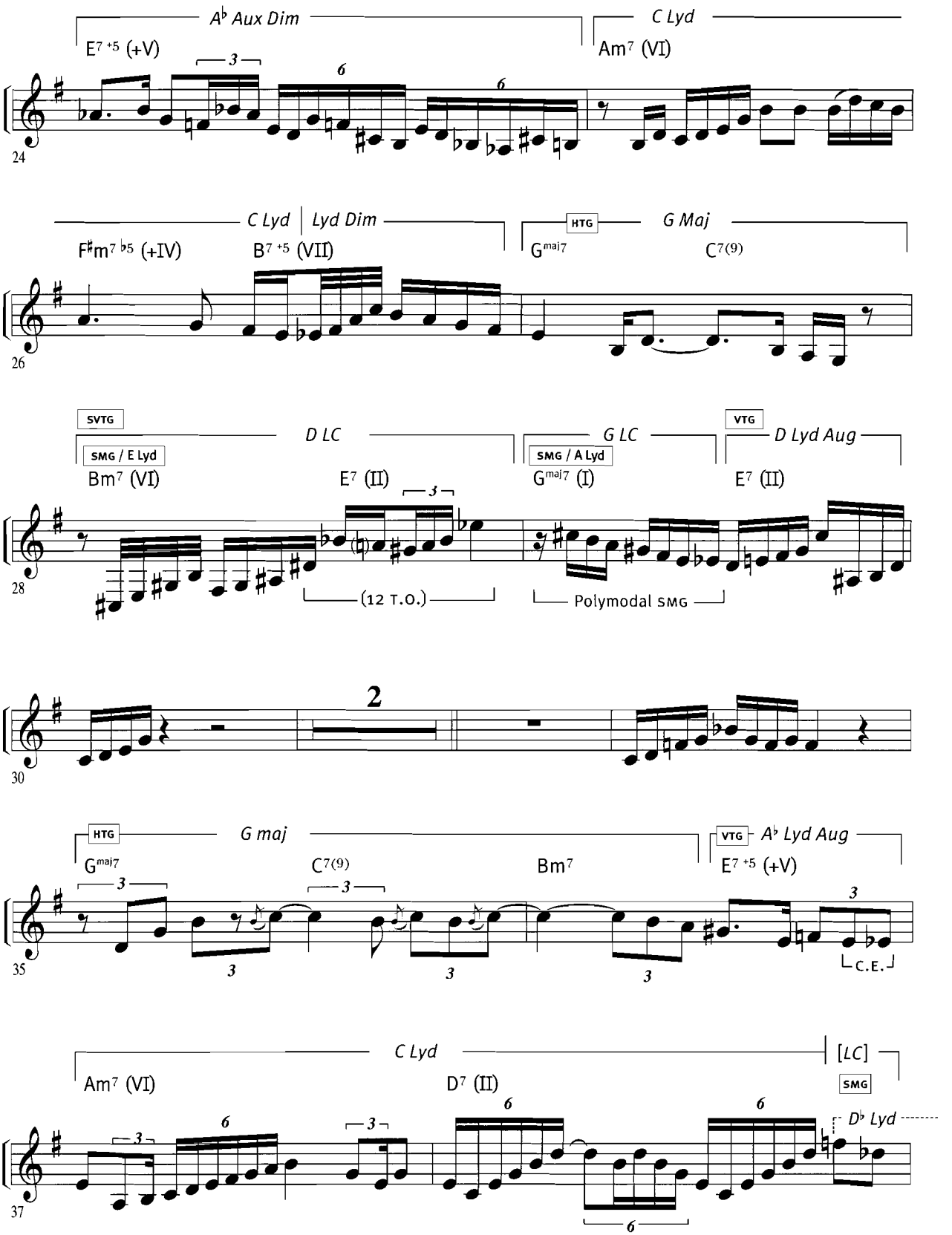
RODGERS & HART

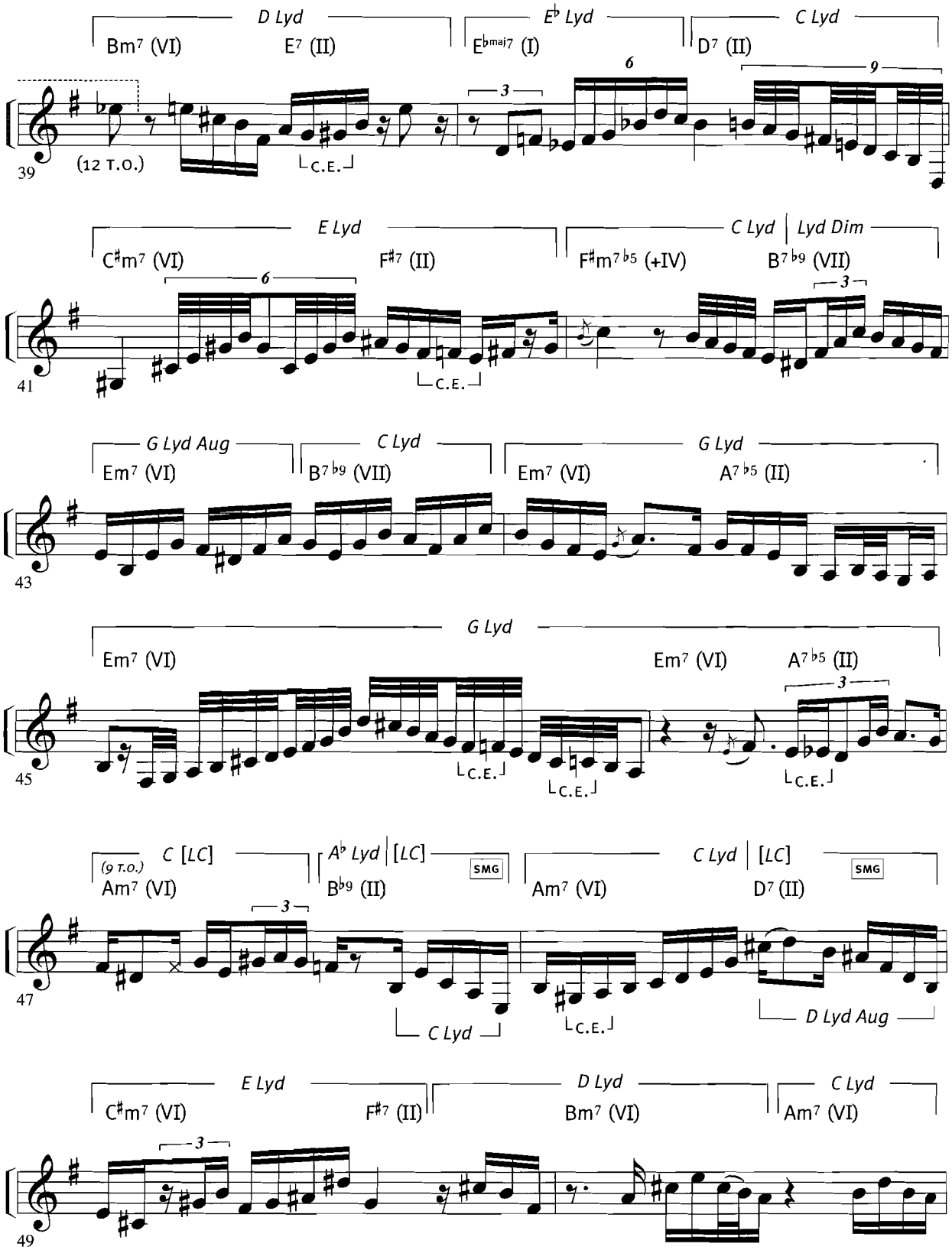
ARRANGER: GEORGE RUSSELL

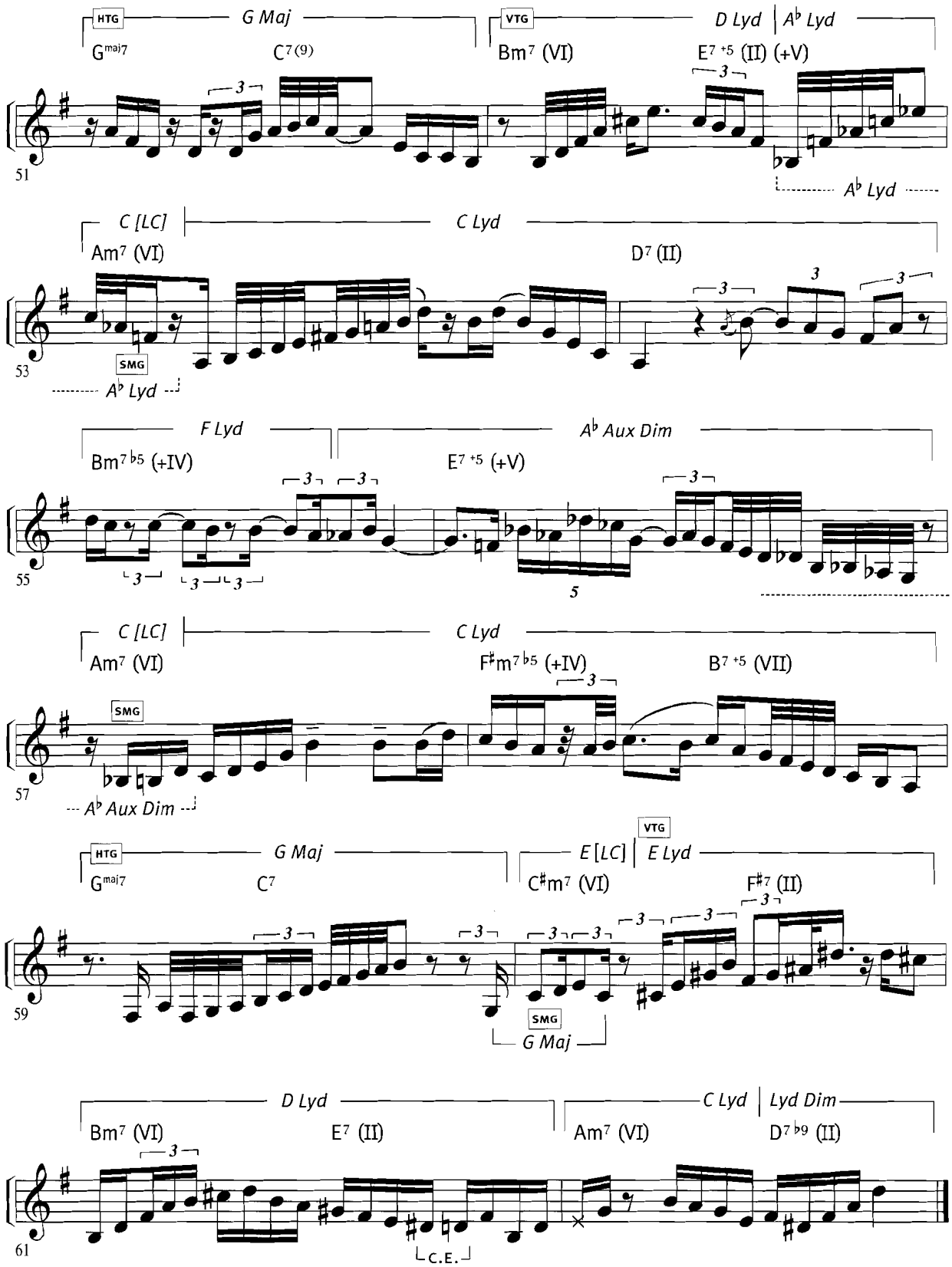
Analysis by Gregg Ramsey




G Lyd Aug
C Lyd
C Lyd Dim
G Lyd
Em7 (VI)
B7♭9 (VII)
Em7 (VI)
A7 (II)
11
C.E.
G Lyd
C Lyd
A7 (II)
Am7 (VI)
14
C.E.
C Lyd
E Lyd
Am7 (VI)
D7 (II)
C♯m7 (VI)
F♯7 (II)
16
C.E.
D Lyd
C Lyd
HTG
G Maj
Bm7 (VI)
Am7 (VI)
Gmaj7
C9
18
VTG
D Lyd
C Lyd
Bm7 (VI)
E7 (II)
Am7 (VI)
20
C.E.
C Aux Dim
F Lyd
D7 (II)
Bm7♭5 (+IV)
(9 T.O.)
C.E.
22

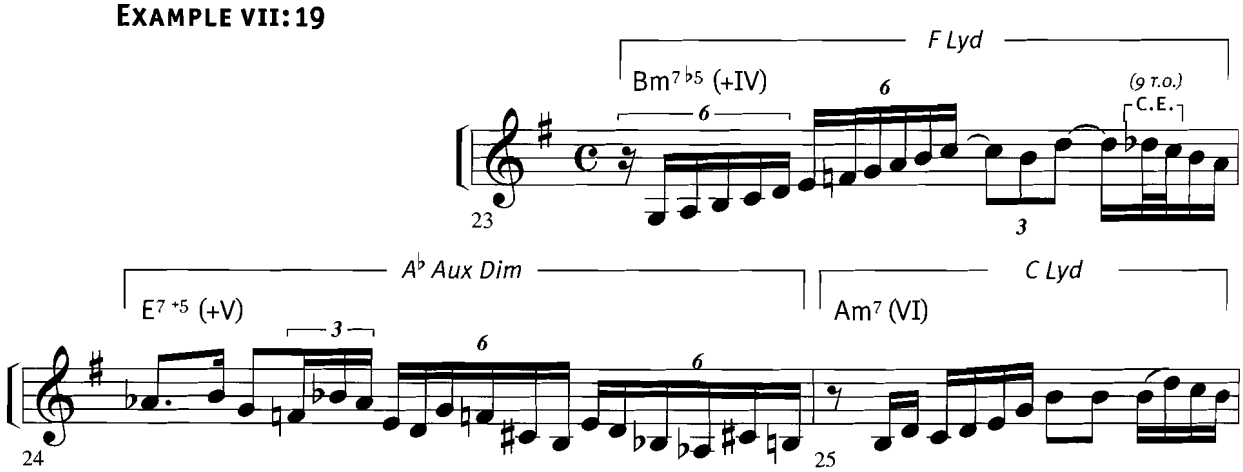

A♭ Aux Dim
C Lyd
E7 +5 (+V)
Am7 (VI)
24
C Lyd
Lyd Dim
HTG
G Maj
F♯m7 ♭5 (+IV)
B7 +5 (VII)
G maj7
C7(9)
26
SVTG
D LC
G LC
VTG
D Lyd Aug
SMG / E Lyd
SMG / A Lyd
Bm7 (VI)
E7 (II)
G maj7 (I)
E7 (II)
28
(12 T.O.)
Polymodal SMG
2
30
HTG
G maj
VTG
A♭ Lyd Aug
G maj7
C7(9)
Bm7
E7 +5 (+V)
35
C.E.
C Lyd
[LC]
SMG
Am7 (VI)
D7 (II)
D♭ Lyd
37


D Lyd
E♭ Lyd
C Lyd
Bm7 (VI)
E7 (II)
E♭maj7 (I)
D7 (II)
39
(12 T.O.)
C.E.
E Lyd
C Lyd | Lyd Dim
C♯m7 (VI)
F♯7 (II)
F♯m7♭5 (+IV)
B7♭9 (VII)
41
C.E.
G Lyd Aug
C Lyd
G Lyd
Em7 (VI)
B7♭9 (VII)
Em7 (VI)
A7♭5 (II)
43
G Lyd
Em7 (VI)
Em7 (VI)
A7♭5 (II)
45
C.E.
C.E.
C.E.
(9 T.O.)
C [LC]
A♭ Lyd | [LC]
SMG
C Lyd | [LC]
SMG
Am7 (VI)
B♭9 (II)
Am7 (VI)
D7 (II)
47
C Lyd
C.E.
D Lyd Aug
E Lyd
D Lyd
C Lyd
C♯m7 (VI)
F♯7 (II)
Bm7 (VI)
Am7 (VI)
49


HTG
G Maj
G maj7
C7(9)
VTG
D Lyd
A♭ Lyd
Bm7 (VI)
E7 +5 (II) (+V)
51
A♭ Lyd
C [LC]
C Lyd
Am7 (VI)
D7 (II)
53
SMG
A♭ Lyd
F Lyd
A♭ Aux Dim
Bm7 ♭5 (+IV)
E7 +5 (+V)
55
C [LC]
C Lyd
Am7 (VI)
F♯m7 ♭5 (+IV)
B7 +5 (VII)
57
SMG
A♭ Aux Dim
HTG
G Maj
G maj7
C7
VTG
E [LC]
E Lyd
C♯m7 (VI)
F♯7 (II)
59
SMG
G Maj
D Lyd
Bm7 (VI)
E7 (II)
C Lyd
Lyd Dim
Am7 (VI)
D7 ♭9 (II)
61
C.E.

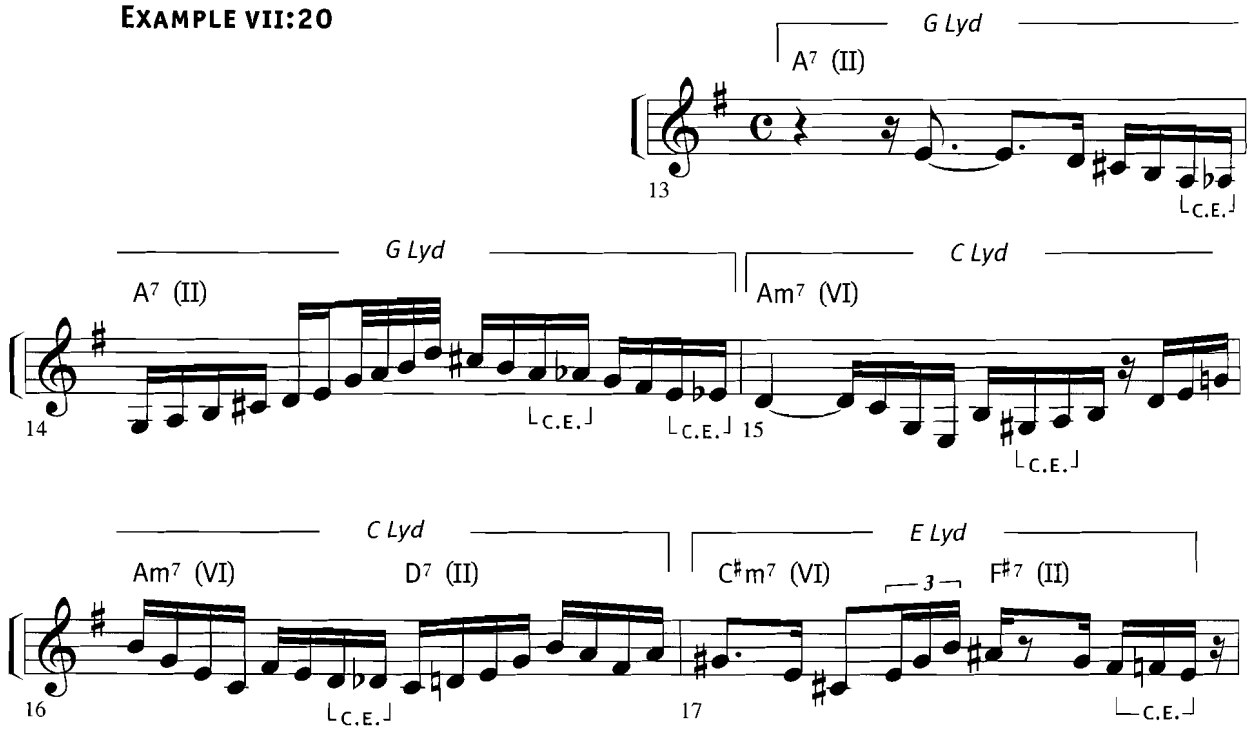
John Coltrane's solo on *Manhattan* is on the Level of VTG. In the example below, (bars 23-25) he reacts to each prevailing chord of the moment with an ingoing vertical melody resulting in a sequence of prevailing chord (PMG)/parent LC Scale alliances existing on the Level of VTG.

EXAMPLE VII:19



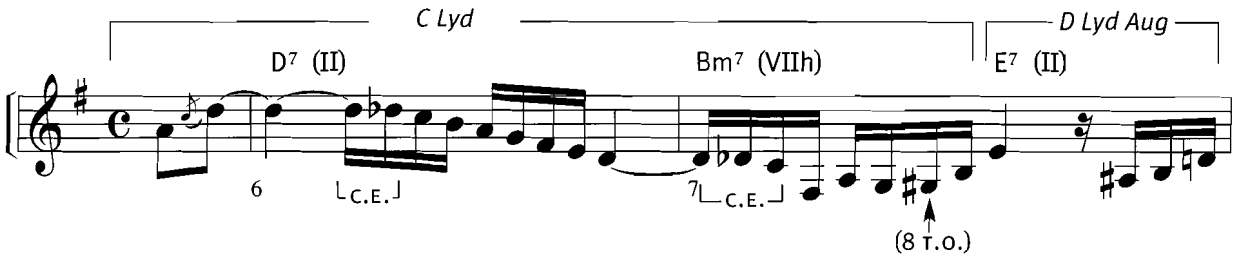
Coltrane also chromatically enhances (C.E.) his melodies for additional color:

EXAMPLE VII:20



In contrast to relating vertically in an ingoing manner, Coltrane also explored melodies having a more outgoing relationship to chords. For example: the D7 chord melody (chordmode) from bar 6 continues to sound polymodaly, on the Bmin7 chord in bar 7, converting it to a CMG VII(h) minor chord of the C Lydian Scale.

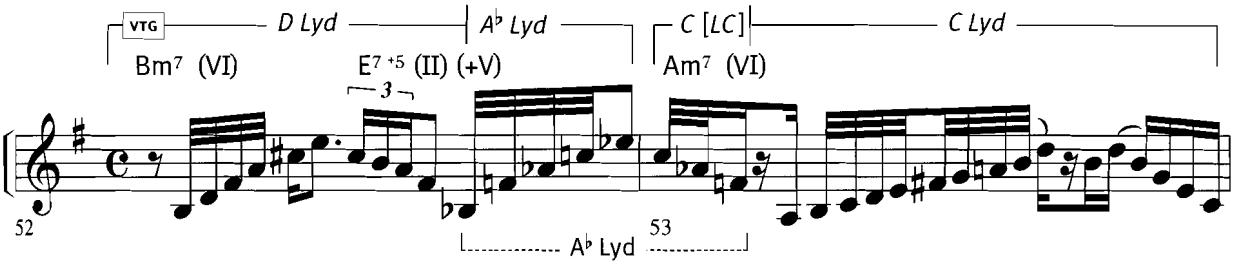
EXAMPLE VII:21



Bar 52 shows Coltrane's melody staying in D Lydian by treating the $E^{7\,+5}$ chord on beat 3 initially as a II7 chord of the D Lydian Scale.[1] On beat 4, the adjustment is made, and Coltrane melodizes the $E^{7\,+5}$ chord as a PMG +V chord of the A♭ LC Scale. However, the B♭11 chord arpeggiated on beat 4 of bar 52 indicates A♭ Lydian, rather than A♭ Lydian Augmented, the primary parent scale of the $E^{7\,+5}$ chord.

He continues to play the A♭ Lydian melody (indicated by the dotted line bracket) overlapping it into bar 53. The first three notes of bar 53 now feature A♭ Lydian as a SMG fragment in context of the C LC Scale (eleven-tone order).[2]

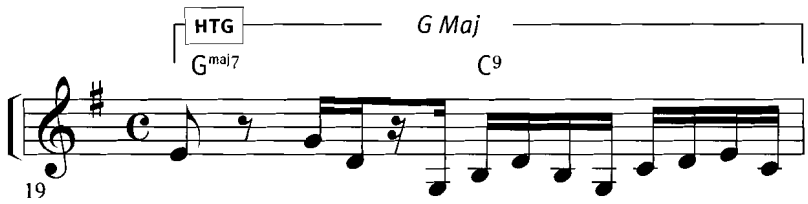
EXAMPLE VII:22



1. In the +V PMG seventh +5 category on Chart A, roman numeral II is listed as an AMG.
2. The F minor triad on beat 1 of bar 53 could be viewed as a fragment of the C aux dim scale. However, Coltrane's A♭ Lydian Scale indicating melody on beat 4 of bar 52 weighs heavily in favor of him overrunning that scale on the first beat of bar 53, thereby qualifying it to be judged a SMG of the C LC Scale. That this condition occurs several times in the solo leads to the conclusion that these overlapping SMG were an intentional part of his innovative explorations, nearly always conforming with the Law of VTG, while infusing his melodies with the outgoing to ingoing vertical consciousness provided by that Law of Tonal Gravity.

In example 23, Coltrane chooses the G major scale to sound over the two chords of bar 19. The tonic/subdominant duplicity within all major scales enables this G major scale melody to sound an ingoing vertical relationship, first to the G major chord on beats 1 and 2, and then to the C 9 chord on beats 3 and 4. However, it is the melody's sounding of G major on the C 9 chord on beat 3 that leaves no doubt that the melody in bar 19 represents a horizontal melody establishing a single "condition" (small area) of Horizontal Tonal Gravity.

EXAMPLE VII:23



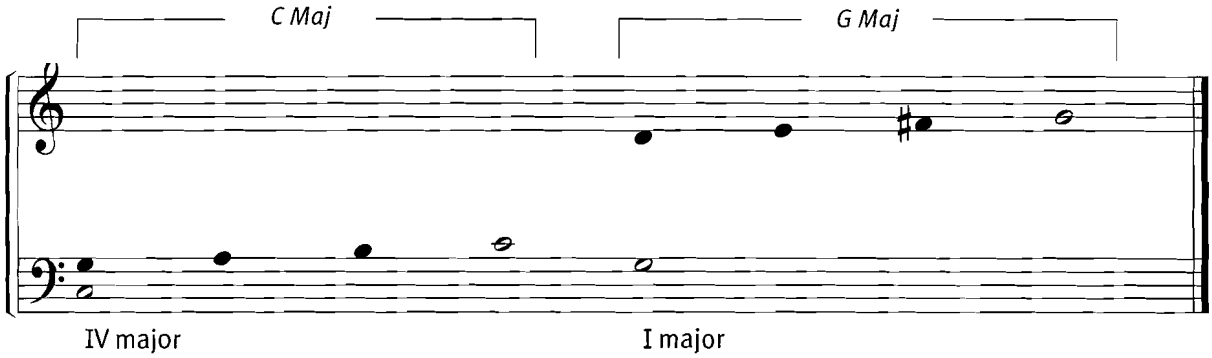
As you know, the horizontal scale sounds in a psychologically thrusting manner that conveys a feeling of striving and effort to resolve directly to its fundamental tonical *do*. In this way the major scale and other horizontal scales affirm the tonical authority of their fundamental *do*. This manner of relating to and emphasizing the tonic is an intrinsic feature of the horizontal scale. The horizontal scale relies on the aspect of resolution to project its tonical *do* in an aggressively direct horizontal manner.

Momentarily departing from the Coltrane solo to discuss basics, it can be said that the term RESOLUTION implies the duality of two elements:

1. a non-final element in the process of resolving to ⟶ 2. a fully resolved final element having the capacity to grant finality to the non-final.

For example, the natural order of the major scale vertically insinuates first its non-final subdominant major chord, and then its tonical major chord.

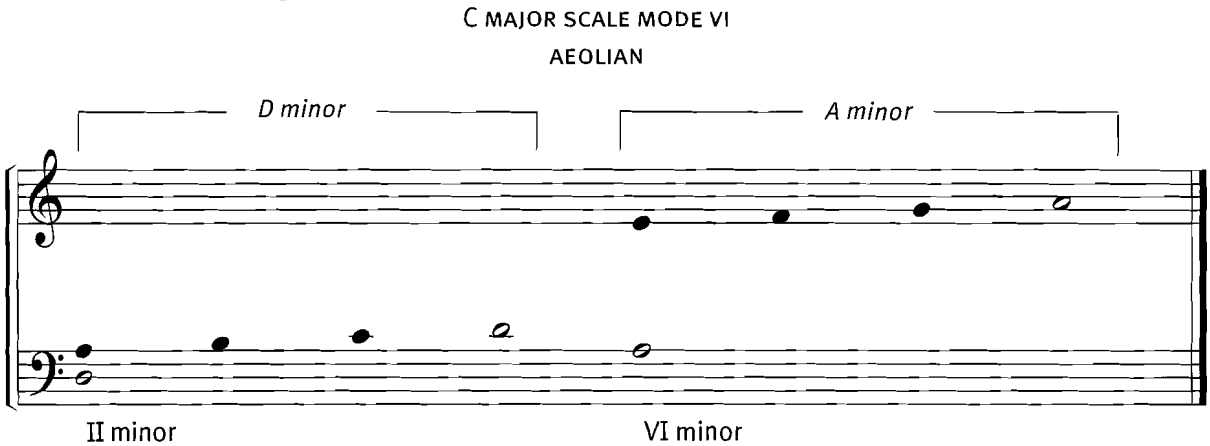
EXAMPLE VII:24



It is the presence in the major scale of its sub-dominant (fourth) degree—in a constant state of non-finality—that endows the major and other horizontal scales with a thrusting, goal seeking manner of sounding their fundamental tonical *do*.

The major scale's fourth degree (together with its horizontal qualities) is repositioned on the flat sixth degree of that scale's relative VI minor (Aeolian) mode. The natural order of Aeolian mode VI of the C major scale (for example), vertically insinuates its non-final D minor (II minor) chord, then proceeds to infer its A minor (VI minor) chord.

EXAMPLE VII:25



As previously stated, the G major scale melody in bar 19 of Coltrane's solo on *Manhattan* maintains a strong HTG posture. It vertically infers the G major chord, aggressively overrunning it into the C^9 chord on beat 3, thereby causing the tonical weight of the tone $G^{\natural}$ to be strongly asserted. On

beat 4 the G major scale melody vertically infers the non-final C^9 chord with the tones C, D and E. All these considerations justify the melody in bar 19 being designated as a G major scale (HTG) melody.

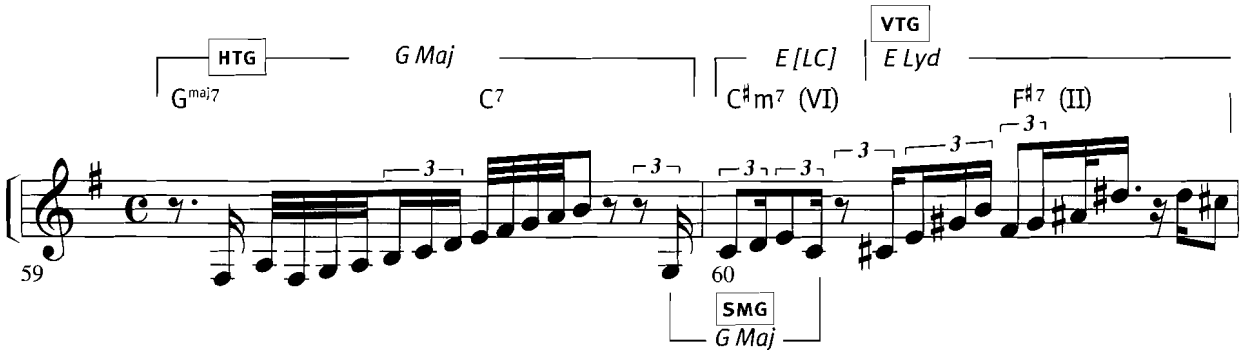
Bar 20 of Coltrane's *Manhattan* solo is strictly an ingoing vertical D Lydian Scale melody in relation to the $Bmin^7$ and E^7 chords.

An almost identical situation to bar 19 (example 23) occurs in bar 59, when a pure G major scale melody is imposed on the G major and C^7 chords of that bar. Had the melody on beat 3 of bar 59 ended with the tone B♭ instead of B♮, the B♭ Lyd Aug Scale would have been the VTG parent scale for the C^7 chord.[1] However, the melody in bar 59 is too prevalently in and of the G major scale to call this anything but a HTG melody, in the context of which Coltrane ignores the gravity of the C^7 chord. As in *Giant Steps*, bar 17, Coltrane may have needed a break from rapid fire vertical calculations.

The G major scale melody sounding in bar 59 up to beat 2 of bar 60, is viewed as a single condition of HTG featuring a G major scale melody prevailing in bar 59, up to beat 2 of bar 60. On beat 1 of bar 60, Coltrane's overlapping G major scale melody is converted, automatically, to a SMG melody of the E Lydian [LC] Scale, the vertical scale dictated by the chords and remaining melody in bar 60.

Once an innovator knows a certain approach works, it is likely to become a permanent part of his or her "bag," i.e., vocabulary. The surprising number of overruns in this solo might suggest that this is the situation here.

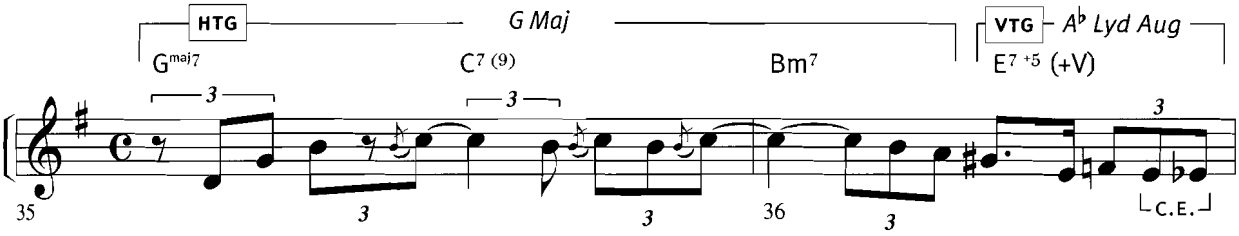
EXAMPLE VII:26



1. Within the context of a HTG area, it is not necessary to assign primary modal tonic degree roman numerals to chords.

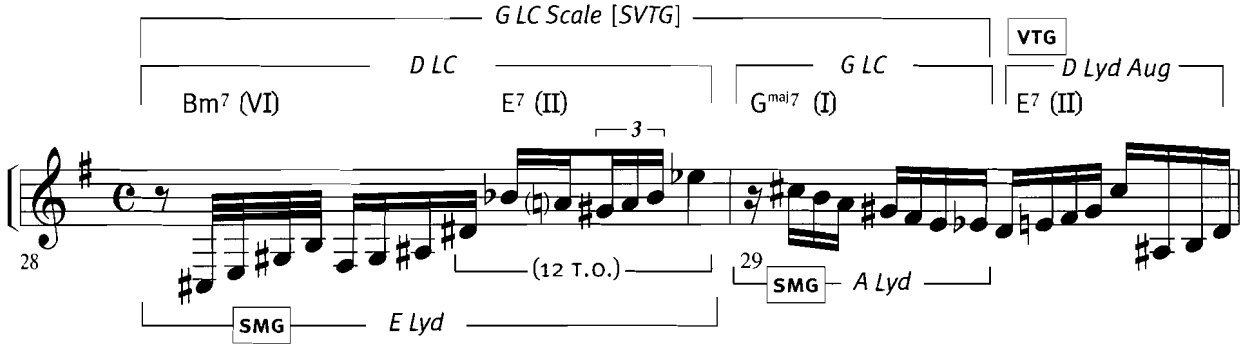
A very clear example of a HTG melody occurs in bars 35 and 36 when Coltrane structures a very simple G major scale melody to sound over the three chords (G major, C^9, and B min^7) that occupy the first six beats of these two bars. On the last two beats of bar 36, Coltrane's vertical consciousness of the $E^{7\,+5}$ chord leads him to sound a melody derived from that chord's primary parent scale, $A^{\flat}$ Lydian Augmented.

EXAMPLE VII:27



In the process of analysis, SMG and their secondary parent scales must be noted within the space allotted to their respective PMG/parent [LC] alliance, as shown in Example 28 below.

EXAMPLE VII:28



It must be understood that whenever a SMG melody lasts for the entire duration of a prevailing VTG or HTG area (state), it tends to negate or transcend the essential type of melody authentically validated by the law of that state. This results in transforming the state or area into a single "condition" (small area) of supra-vertical tonal gravity (SVTG) manifesting within its designated LC Scale (e.g. the first six beats of example 28).

1. Using the VTG approach to bars 28 and 29, the improviser knows that the B min^7 and E^7 chords in bar 28 represent the VI minor and II seventh chords of the D LC Scale (a vertical consideration).
2. He sees that G major (PMG I major chord of the G LC Scale) occupies the first two beats of bar 29.
3. He instantly decides to approach these two verticalities in a somewhat outgoing manner.

On the two D LC Scale chords of bar 28, Coltrane reaches into his arsenal and imposes an E [LC] SMG flurry of tones that succeeds in creating a polymodally extended melody, manifesting within, in this case, the D Lydian [LC] Scale. This compounding of LC Scales supports the function of the D LC Scale, as the prevailing LC Scale, to be maintained within bar 28's four beat, *fractional* area, while concurrently accommodating the E Lydian Scale melody as a SMG melody extending upwards and outwards within the D LC Scale/SVTG Alliance of bar 28.[1]

On the G major chord occupying the first 2 beats of bar 29, Coltrane imposes an A Lydian Scale melody, creating a single condition of SVTG relative to the G LC Scale.[2]

The result of Coltrane's bar 28 and 29 vertical calculations is two successive SVTG conditions. That is, these vertical calculations were necessary in order for Coltrane to approach them supra-vertically.

Both the E Lydian SMG and A Lydian SMG lie two fifths in a sharp direction above their host parent LC Scales (D LC and G LC) in this six beat SVTG area.

Such consistency indicates a pattern, a methodology that Coltrane may have applied to expand what the LC Concept was first to label vertical tonal gravity into what it was first to label supra-vertical tonal gravity.[3]

The symbol for that type of area represented by Coltrane's *Manhattan* solo in its entirety would be as follows: [VTG ⅜ HTG ⅜ SVTG] = A solo

1. The degree to which the E Lydian, eleven tone order melody of bar 28 transcends the harmonic genre of it two chords, B minor and E^7, causes that bar to be classified as a single condition (fractional area) of SVTG. A melody that transcends the genre of accompanying chords on the Level of VTG cannot be judged as "wrong." It simply has shifted to a broader level of melodic behavior (horizontal or supra-vertical).
2. The A Lydian SMG melody is responsible for the SVTG condition on beats 1 and 2 of bar 29.
3. Whether he knew those terms or not, this analysis shows him thinking along these lines.

manifesting a sequence of VTG alliances, predominantly within a space/time continuum which includes sparse instances of HTG and SVTG alliances.

Ultimately, secondary modal genre manifest within (and/or in relation to) the prevailing GCE/parent [LC] Scale alliance dictated by a current GCE on any one of the three levels of tonal gravity. The superimposition of Secondary Modal Genre on that prevailing gravity centering alliance (GCA) creates a polymodal texture, as in bars 28 and 29 (beats 1 and 2 of example 28).

The last two beats of bar 29 represent a far more ingoing VTG alliance featuring the D Lydian Augmented Scale melody sounding over the E^7 chord.

It is also possible for SMG harmonic (vertical) structures to occur within a prevailing VTG alliance as moving harmonic enhancements of the prevailing chordmode (See analysis of *Ondine*, bars 4 and 6).

The element that enables the chordmodes of any Lydian Chromatic Scale to manifest as secondary modal genre within the prevailing LC Scale on any of the three levels of tonal gravity is the five tonal orders of the LC Scale.[1] The Tonal Gravity Chart[2] proves that the tonal resources of all Lydian Chromatic Scales exist within one Lydian Chromatic Scale and, conversely, the melodic and harmonic resources of any single Lydian Chromatic Scale exist within all of the eleven other Lydian Chromatic Scales.

The Ingoing to Outgoing Order of All Aspects of the Lydian Chromatic Concept

All aspects of the Lydian Chromatic Concept follow a natural ingoing to outgoing order of development. For example, ingoing melodic resources of the Lydian Chromatic Scale precede its outgoing melodic resources in order of development. The order of discussion of all subjects within this text follows the same ingoing to outgoing pattern of exposition. However, in the interest of thoroughness in examining a major topic of a basically ingoing nature such as the Level of Vertical Tonal Gravity, it is sometimes necessary to involve a (preliminary) outgoing manifestation of that essentially ingoing topic. Such is the case in Chapters VI and VII, when Secondary Modal Genre

1. See chart on page 14 of Chapter II.
2. Contained within Volume II of the *Lydian Chromatic Concept of Tonal Organization*.

melodies, a potentially outgoing melodic resource of the LC Scale are introduced as an element having the capacity to materialize within the level of VTG.

Complexities like these within the LC Concept were implied by innovative contributors to the art of jazz like Eric Dolphy, Don Cherry, Ornette Coleman, John Coltrane, and Miles Davis. These creative musicians blended secondary modal genre, a potentially outgoing tonal resource, with the basically ingoing tonal resources of Vertical Tonal Gravity.

But regardless of how experimental these and many other jazz musicians were, they all seemed to have an intuitive respect for the Law of Vertical Tonal Gravity. This is indicated when they insist on sounding an ingoing vertical melody after a secondary modal genre flurry.[1] They seemed to have understood that to maintain a Secondary Modal Genre melody continuously on the Level of Vertical Tonal Gravity meant that the Law of Vertical Tonal Gravity was transcended, and the melody was behaving in a manner dictated by a broader level of tonal gravity.

They remembered that the three levels of tonal gravity have to do essentially with melody and how melody behaves, melody being the most important information-conveying element of music.

Passive Vertical Tonal Gravity

Question: The Law of Vertical Tonal Gravity states that "virtually" each chord of a chord progression must be accompanied by a melody that activates the chord by projecting its harmonic genre for a convincing part of its duration. At the same time, the term "virtually" seems to imply that some chords on the level of VTG don't need to be expressed by an active vertical melody, and may simply consist of a single, sustained tone. Is this a contradiction?

Author's Response: The phrase "virtually each chord of a progression" used in connection with the Law of VTG allows for a special condition of the level of VTG that enables a single note of the vertical melody to be sus-

1. The level of SVTG, in its more or less outgoing state, is the only level of tonal gravity that will accommodate the continuous superimposition of SMG. The laws of the two lower levels of tonal gravity will not support the uninterrupted application of SMG.

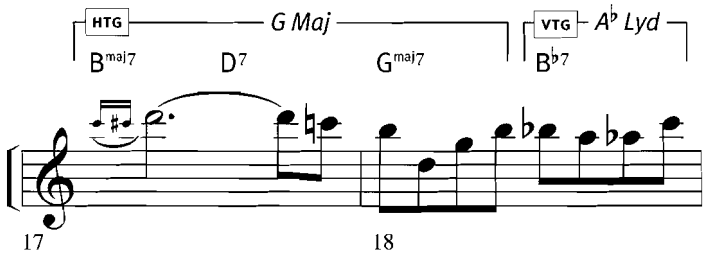
tained for a period determined by the harmonic rhythm of the melody. During this period, the presence of an active vertical melody is either non-existent or co-exists with the sustained tone of the main melody (dominant melody) as a subsidiary, supportive melody. This special condition within the Level of VTG is referred to as PASSIVE VERTICAL TONAL GRAVITY.

Question: Isn't it easy to confuse this condition of passive vertical tonal gravity with the way melody behaves on the Level of HTG? I would think that in the absence of an active vertical melody, any sustained tone or longer (and larger) note values in the melody would signal the presence of a broader level of tonal gravity.

Author's Response: Its true that a sustained tone occurring within the context of a melody conceived on the Level of VTG is often a signal that the behavior of the melody has shifted to a broader level of tonal gravity, either HTG or SVTG. The reason for this is that the musical ear is always seeking to identify with the tonic. On the Level of VTG, the listener becomes accustomed to hearing the melody sound the harmonic genre of nearly each chord. However, the presence of a sustained melodic tone causes the ear to gravitate to the most secure horizontal tonal center (major or minor tonic station) implied by that sustained tone. The main difference between a passive VTG sustained melodic tone and an active HTG sustained melodic tone is that the passive VTG sustained tone represents simply a prolonged pause in the harmonic rhythm of the melody, whereas the HTG sustained melodic tone indictaes a tonic station final within the context of its unfolding HTG area. That is, it is part of a HTG melody which sounds a tonic station in the midst of one or more chords resolving to a tonic station. The passive VTG sustained tone is not tied to, nor a signal of, a commencing HTG melody. If it were, then it could not be identified with a passive VTG condition. A strong example of a horizontally active sustained melodic tone happens in bar 17 of Coltrane's *Giant Steps* solo:[1]

1. See Chapter V, pages 95 and 96 for transcription and analysis of 32 bar solo.

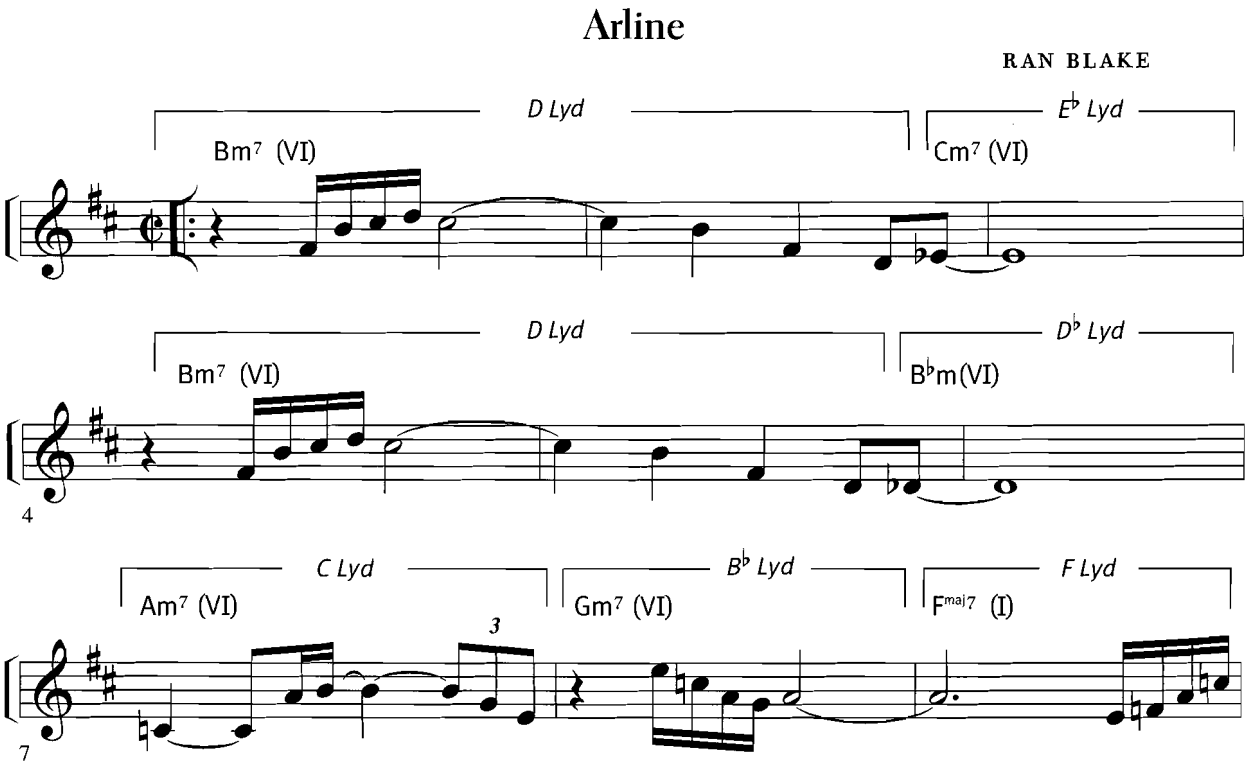
EXAMPLE VII:29



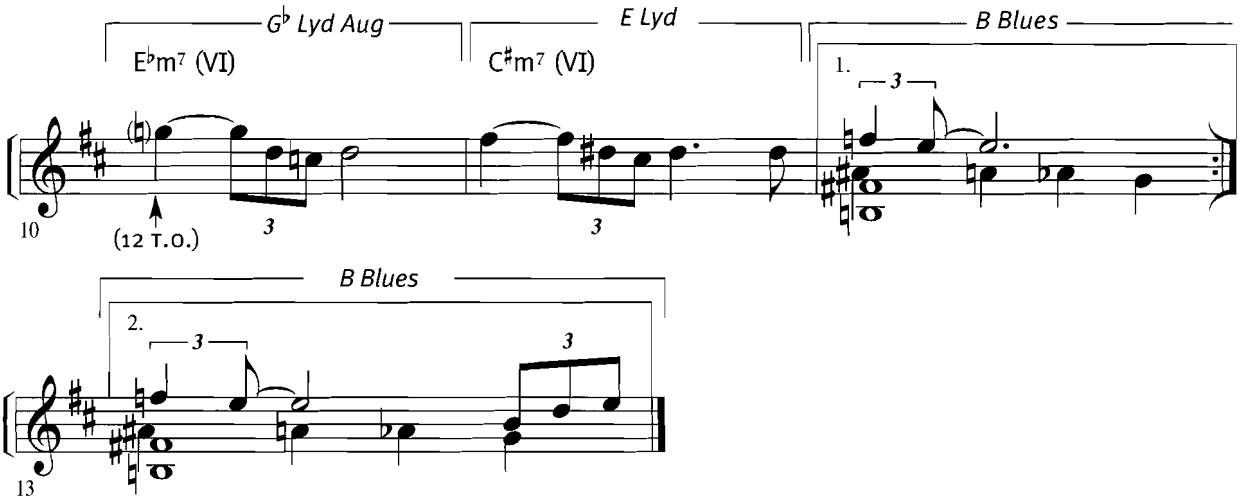
The tone D♮ sustained over the Bmaj7 and D7 chords of bar 17 is the initiator of a phrase that reveals Coltrane's intent is horizontally oriented to sound the G major scale over this small, six beat HTG area.[1]

A good example of passive vertical tonal gravity is the composition *Arline* written by the legendary and perpetually innovative pianist, composer, conceptualist, and educator Ran Blake.

EXAMPLE VII:30



1. A horizontal tonal gravity (HTG) area of this small duration within the context of an essentially VTG analysis is referred to as a condition of HTG.



A vertical melody is a chord reactive melody. However, the harmonic rhythm of *Arline*'s melody is sustained for four beats in bars 3 and 6. Analyzed initially on the Level of VTG, these two bars are viewed as PASSIVE VERTICAL PAUSES occurring on the Level of VTG.

Allowances for the occasional passive vertical pause on the Level of VTG are necessary in order to free the musician's aesthetic judgment to shape the harmonic rhythm of melodic phrases in the most satisfying way, while remaining essentially under the umbrella of the Law of VTG.

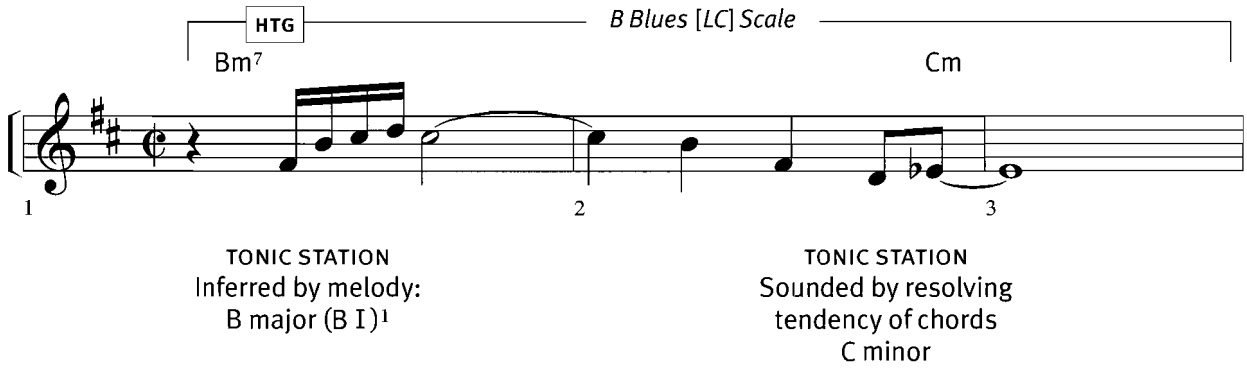
It cannot be said that the sustained tone (E♭) in bar 3 ties into or initiates the B minor/D Lydian melody that follows it in bar 4. Nor is the tone D♭ in bar 6 connected to the C Lydian/A minor melody in bar 7. There appears to be no horizontal follow through of the sustained tones in bars 3 and 6 of *Arline* as signaled by the pause on the tone D♮ in bar 17 of Coltrane's *Giant Steps* solo. This is because bars 3 and 6 of *Arline* can be viewed simply as PASSIVE VERTICAL TONAL GRAVITY PAUSES of the melody's harmonic rhythm within the context of the Level of Vertical Tonal Gravity, apparently the level of tonal gravity for *Arline*.

Question: The melody in bars 7 through 12 of *Arline* represents the conscious or unconscious application of the Level of VTG, and this is a certainty. However, does the melody in bars 1 through 6 lend itself to an interpretation on a level of tonal gravity other than that of VTG?

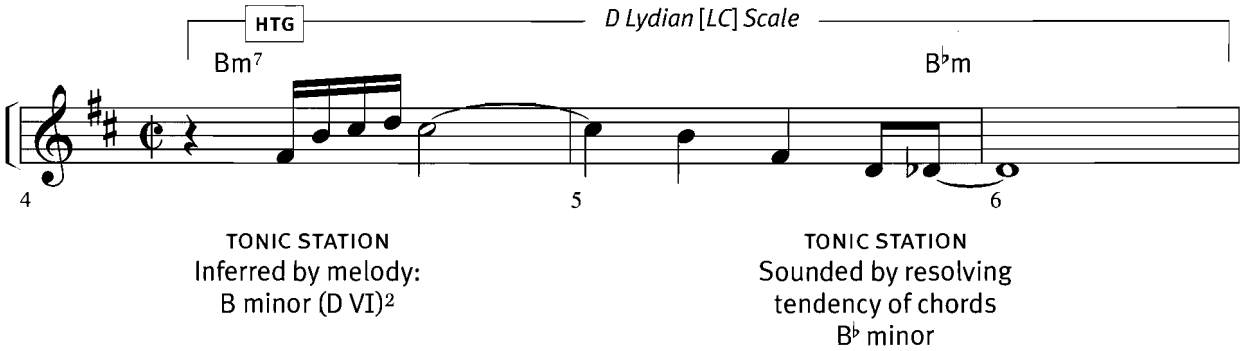
Author's Response: Longer note values within a VTG melody tend to bring it closer to the possibility of analysis under the umbrella of the broader

Level of HTG or even SVTG. A sign that a VTG melody might be leaning toward a broader interpretation on a broader level of tonal gravity is the prevalence of these longer note values. Longer durations of melodic tones make it more difficult to detect the difference between a VTG melody and a HTG (or SVTG) melody. So, to answer your question, it is possible to analyze the first six bars of *Arline* on the Level of HTG.

EXAMPLE VII:31



EXAMPLE VII:32



Example 31 shows the melody in bars 1–3 of *Arline* being derived from the B blues scale, one of the four horizontal member scales of the B LC Scale. The B blues scale [B, (C♯), D, D♯, E, F, F♯, G♯, A, (A♯)] accommodates all the tones of the melody in these 3 bars, and also lends itself to the minor/major harmonic genres expressed by this melody. Furthermore, the composer indicates the B blues scale in bars 12 and 12a of *Arline*. The tonic station

1. Play only the melody in bars 1–3 and you will hear it imply B major as its tonic.
2. Play only the melody in bars 4–6 and you will hear it imply B minor as its tonic.

suggested by the melody is B♮, inferred as a I major tonic station of the B LC Scale[1] by the last tone of the phrase, E♭.

The tonic station indicated by the RESOLVING TENDENCY OF CHORDS in Example VII:31 is C minor, (the B minor chord resolving to the C minor tonic station chord). This represents a specific type of cadence on the Level of HTG. Example VII:32 identifies the melody in bars 4, 5 and 6 of *Arline* as a horizontalized vertical melody lying solely within the D Lydian Scale. Here is an instance of the Lydian Scale, the seminal vertical scale on which the LC concept is based, being applied in a horizontal manner on the Level of HTG. However, this should not astonish you. Since bar 3 of Coltrane's *Giant Steps* solo has already made you aware of the VERTICALIZED HORIZONTAL MELODY, it follows that the HORIZONTALIZED VERTICAL MELODY, which Example VII:32 represents, must also exist.[2]

It is therefore important to remember that horizontal scales can function as verticalized horizontal melodies on the Level of VTG and any of the seven vertical principal scales of the LC Scale can function as horizontalized vertical melodies on the Level of HTG. However, what must be kept in perspective is that both vertical and horizontal scales function most naturally in consort with their associate level of tonal gravity, i.e., vertical scales in VTG situations and horizontal scales in HTG situations.

Although the levels of HTG and SVTG are referred to peripherally, the emphasis within this present volume is centered on the Level of VTG. It was traditionally Western music theory's omission of the vertical (chord/scale unity) aspect of tonality that initially necessitated the formulation of the LCCOTO. Volume I is, therefore, dedicated exclusively to a consummate, full scope exposition of the Level of VTG. The levels of HTG and supra-vertical tonal gravity are the main subjects of Volume II of *The Lydian Chromatic Concept of Tonal Organization.*

1. The parent LC Scale for this HTG region.
2. Coltrane runs a complete E♭ major scale melody against an E♭ major chord within the context of a solo that is nearly 100% on the Level of VTG.

Ondine, the eighth piano prelude from *Preludes*, Book II, by Claude Debussy, has been given a Vertical Tonal Gravity analysis. The piece is a striking example of chord/scale unity from its beginning to its conclusion. The motif first heard in bars 1 through 3 (highest staff), features a cluster which alternates between diminished third and major third intervals, while interacting with sparse C F♯ B types of Lydian major 7th chords (middle clef). Debussy subtly refers to this motif a number of times, especially in the early part of *Ondine*.

A very rich harmonic palette, presented on page 1 of the composition, expands to the larger structural level, in a natural, effortless manner.

Debussy makes ample use of a number of Primary Modal Genre throughout *Ondine*. The most prevalent of these being PMG II, I, V, and +IV. Surprisingly, both the sub-principal Lydian mode I major/altered major chords, and the more frequently heard principal thirteenth chords belonging to the Lydian mode II/seventh chordmode family, function toward similar emotional purposes. Throughout the piece both chordmodes provide moments of stasis and movement, tension and release. The music also exhibits wide and varied levels of tonal order. This results in the employment of a varied and consistent number of member scales used throughout the composition. A very strong feature of *Ondine* is its smooth flow of prevailing chordmode/parent [LC] Scale alliances (VTG alliances), and Debussy's rich polyphonic exploitation of each individual one of these VTG alliances.

Bars 4 and 6 show the D Mode I 9 T.O. being used as a tonal environment for harmonies and melodies[1] sounding over an A♮ pedal tone, thereby manifesting a PMG V = D Mode I 9 T.O. / (A bass) VTG Alliance. The D Mode I 9 T.O. DOMINANT HOMOPHONIC MELODY, (the lead or top voice of the middle clef's chords) sounding with the A♮ pedal tone in the bass clef, establishes and defines the PMG V, D Mode I 9 T.O./VB alliance occurring in these two bars of *Ondine*.

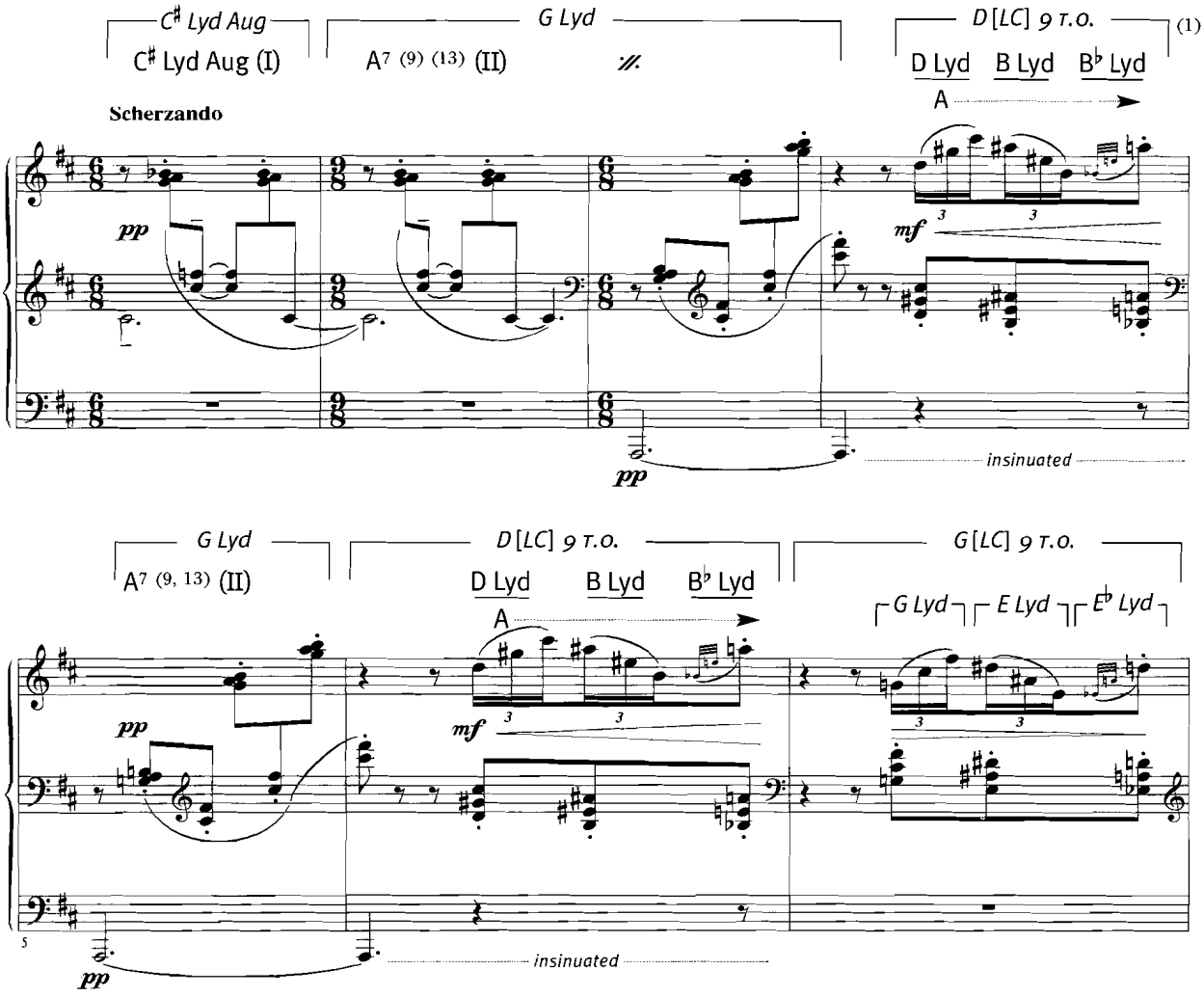
1. Situations involving polyphonic exploitation of a parent scale for a prevailing VTG alliance (as occurs in bars 4, 6, and 7) are referred to as INNER MODAL POLYPHONY (IMP).

Ondine

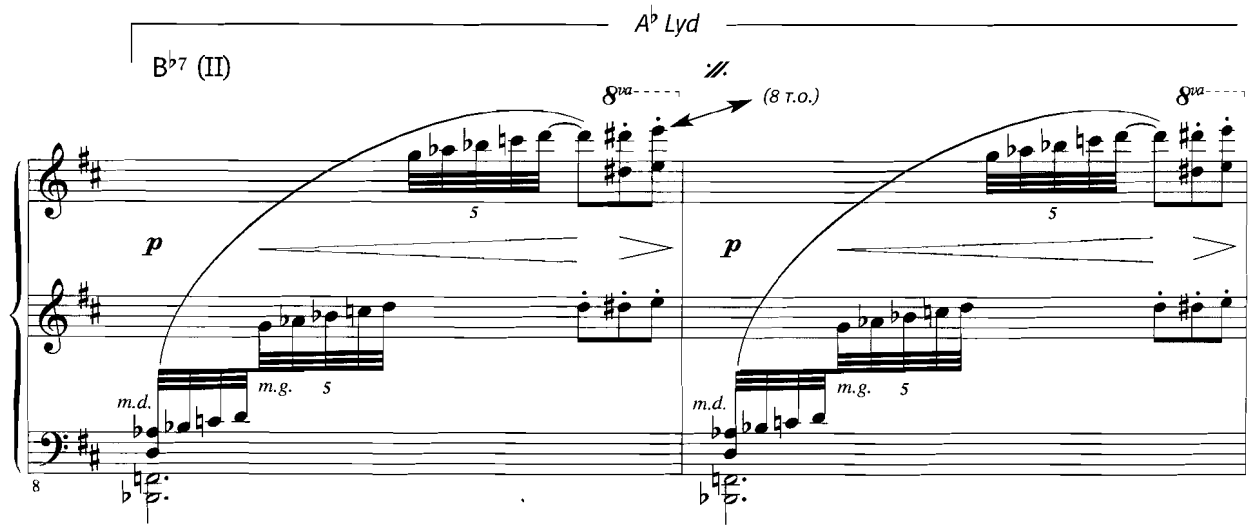
VTG Analysis and Commentary
by Bill Geha and George Russell

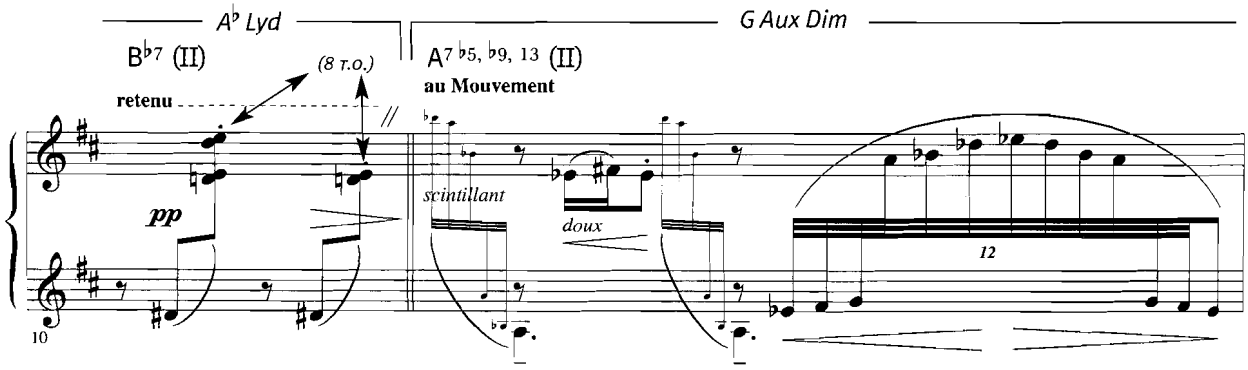
CLAUDE DEBUSSY
No. VIII from *Preludes,* Book II

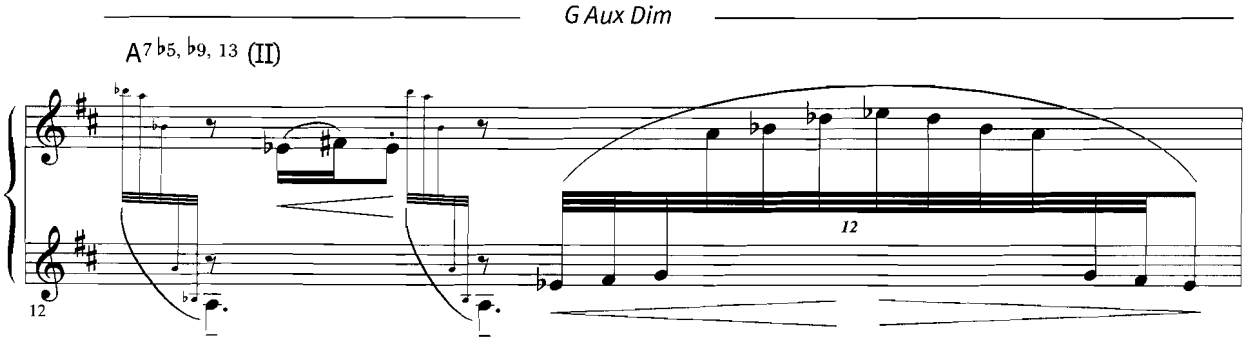
Debussy assigned a two-sharp signature to *Ondine* indicating the traditional key of D major. However the use of G♯ in bars 4 and 6 together with his exploitation of the 9 T.O. using three-note Lydian Major Seventh Chords reveal a much broader concept of key. In those two bars the two-sharp key signature already accounts for a similar exploitation of the G [LC] 9 T.O. occurring in bar 7, also validated by the law of correspondence.

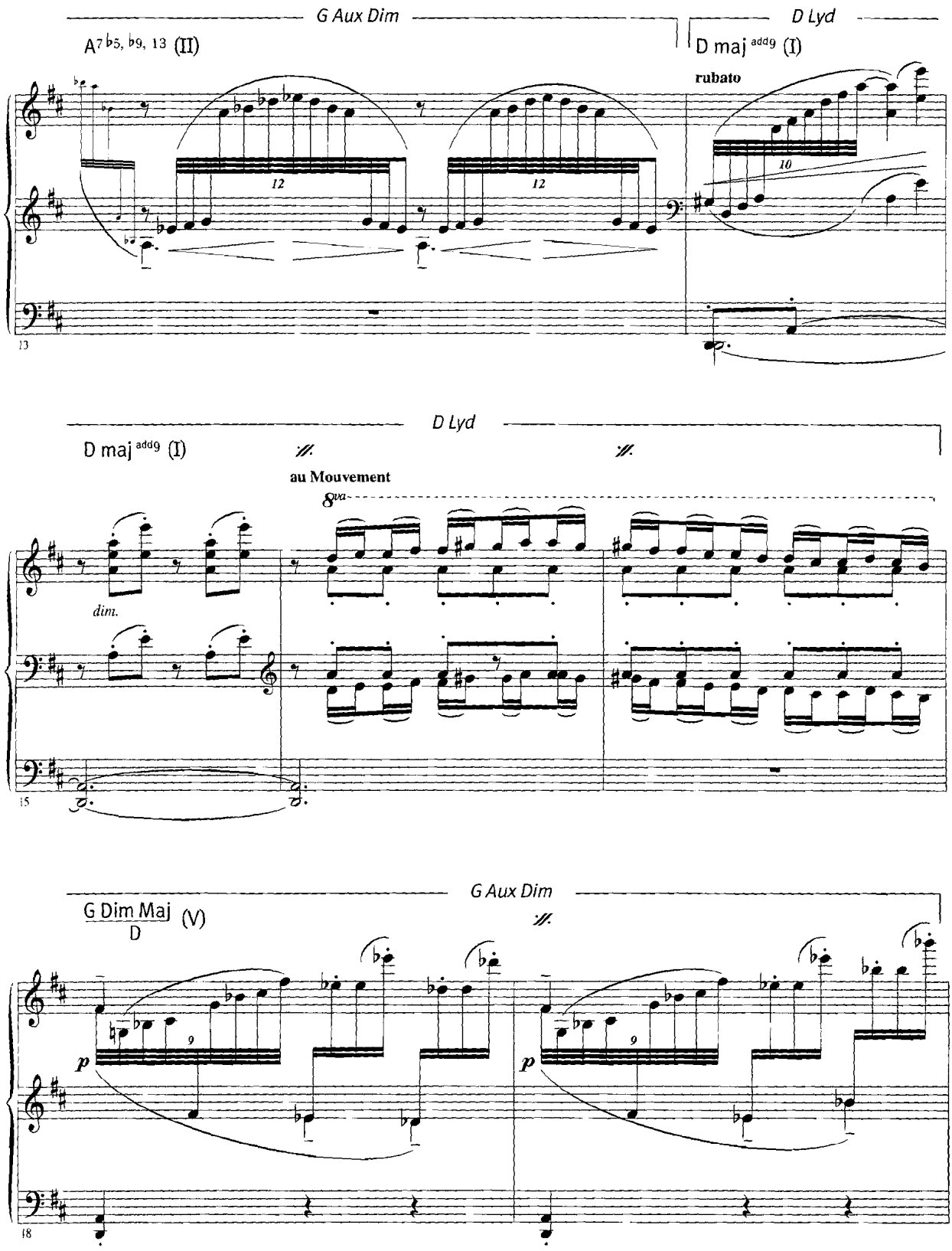


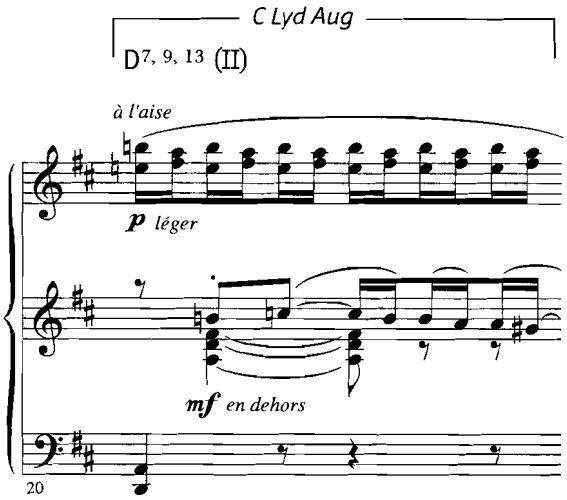
1. Lydian major chords of the type used in bars 4, 6 and 7 are absolutely passive in their tendency to blend with any of the eight PMG of the LC Scale. PMG II is selected in bar 7 because it seems to be Debussy's PMG of choice (along with PMG I) in this composition.


A♭ Lyd
B♭7 (II)
8va
(8 t.o.)
p
m.d.
m.g.
5
8

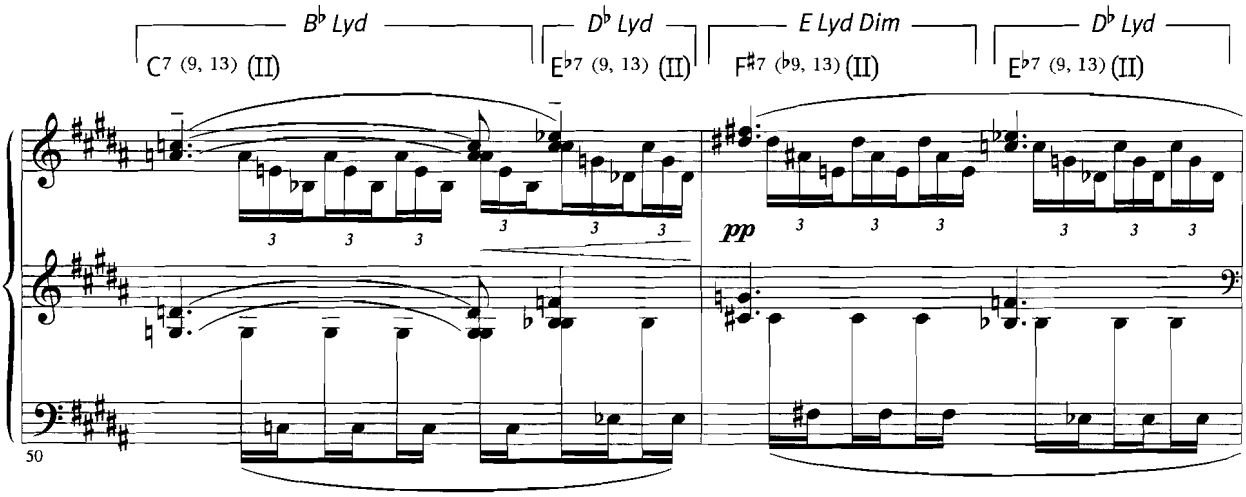

A♭ Lyd
G Aux Dim
B♭7 (II)
(8 t.o.)
retenu
pp
A7 ♭5, ♭9, 13 (II)
au Mouvement
scintillant
doux
12
10

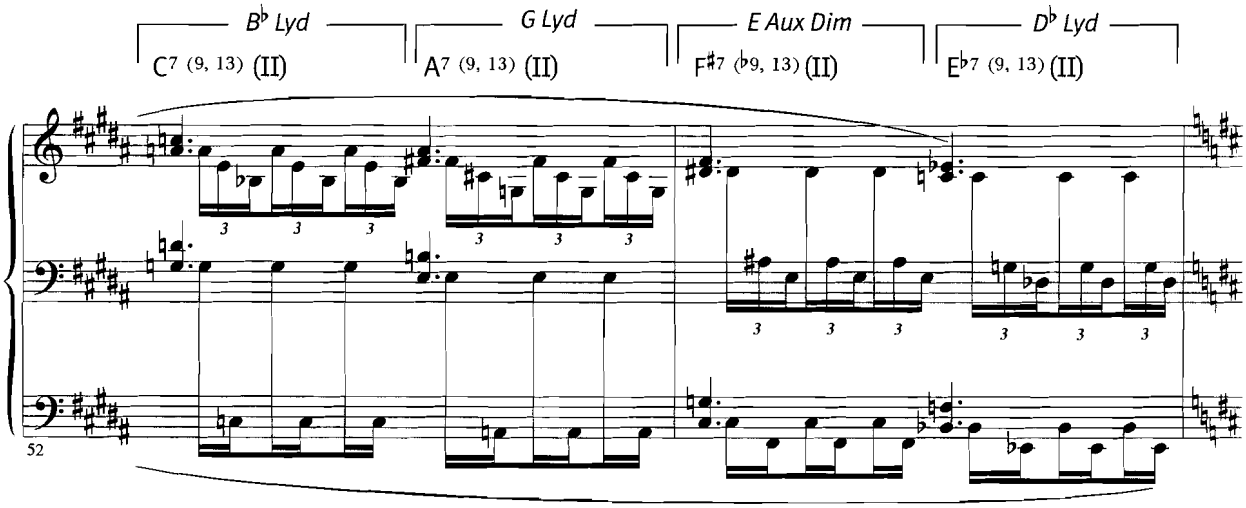

G Aux Dim
A7 ♭5, ♭9, 13 (II)
12
12

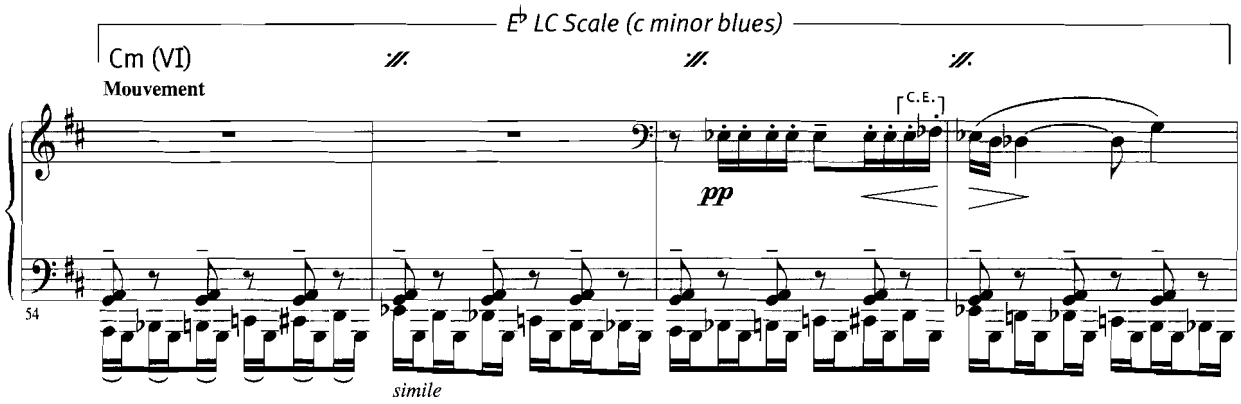

G Aux Dim
A7 ♭5, ♭9, 13 (II)
D Lyd
D maj add9 (I)
rubato
12
12
10
13
D Lyd
D maj add9 (I)
au Mouvement
8va
dim.
15
G Aux Dim
G Dim Maj
D
(V)
p
9
p
9
18



Bars 21 through 48 and 58 through 74 are omitted in this analysis. Readers who wish to analyze these measures themselves are encouraged to do so. This VTG analysis continues below from bars 50 through 57.







Bars 50–53 are quite obviously a sequence of VTG alliances. Bars 54 and 55 suggest that Debussy may have been influenced by Boogie Woogie. However, Debussy's exposure to jazz influences of this nature would have had to occur in the early 1900s, since he died in 1918, a short time before the Chicago style Boogie Woogie was popularized.[1]

The other, not so remote possibility is that this short excerpt from *Ondine* might have influenced Boogie Woogie. Not a small number of jazz musicians influenced (and were influenced by) European modernists: Debussy, Ravel, Stravinsky, Milhaud, Messiaen, and others.

The cross-pollination that occurred between the true innovators of both musical genres accounts for the traditional respect Europeans still maintain for true jazz innovation and innovators.

Bars 54 and 55 feature a Boogie Woogie figure, rooted on G♮ as an always returned to fifth-degree pedal tone for an ascending melody that conveys the sound of the C minor scale. It is in bar 56 that Debussy introduces the tone E♭[2] and thereby reveals that his frame of reference from bar 54 has all the while been the E♭ Lydian [LC] Scale. From bar 56, the music yields to a C minor/E♭ LC Scale alliance as its prevailing VTG alliance. The tone D♭, introduced in bar 57, expands that VTG alliance to its 10-tone order.

1. Chiefly by Albert Ammons and Pete Johnson, see *Jazz—The Rough Guide* by Carr, Fairweather, and Priestly. Rough Guides Ltd., London, 1995.
2. The tone E♭, as the augmented fifth degree of the G blues scale, is the least assimilable tone in the blues scale.

In *Prelude* No. 1 (see analysis beginning on page 205), J. S. Bach introduces many inverted chord voicings, challenging the musician to indulge in a bit of innovative SLASH CHORD nomenclature in the process of analyzing the Prelude. I'm impressed with this method of defining modern harmony, a method which I believe comes from jazz. It has, for certain, extended and enriched the language of modern jazz.[1]

A difference between slash chords representing simple inversions of chords and those representing established PMG must be sensed. Bars 2 and 3, for example, indicate inversions of the D min and G^7 chords, respectively. Their parenthesized slash chord nomenclature emphasizes a chord's basic (pre-inversion) definition, while not excluding the inverted structure of its bass note. In other words, in defining inversions, the emphasis is placed on defining the imposed chord, rather than that tone upon which it is imposed.

The chord in bar 28 of the Prelude [C dim/G] is an established chord belonging to PMG V of the C LC Scale. Its slash chord nomenclature correctly reflects the structure of the chord as a PMT I, C dim major chord imposed on G♮, the fifth degree of the C Lyd Dim [LC] Scale, its parent scale.

EXAMPLE VII:34

(A)	(B)
C E♭ F♯ A	C E♭ F♯ G A
G	G

Whether G♮, the C Lyd Dim Scale's fifth degree is included in the PMT I structure of the C dim major chord[2]—causing its PMT V position to be an inversion—or whether the pure C dim major, mode I chord is imposed[3] on PMT V of the C LC Scale is incidental. The fact remains that all PMG V chords are simply various types of PMT I major chords sounding on PMT V of the LC Scale. They are the result of their interaction with PMT V of the parent LC Scale, the C LC Scale in this example. The accommodation of

1. We remind you that roman numerals appearing with a small letter (v) indicate the vertical state of the corresponding parent scale mode. Roman numerals accompanied by a small letter (h) indicate the horizontal state of the corresponding parent scale mode (chord-mode). Roman numerals prefixed by PMT, PMG, AMT, AMG, direct the musician to the corresponding vertical subject, either in the glossary or on Chart A.
2. Example (B) above
3. Example (A) above

inverted or imposed PMT I major chords of various types is the chief feature of PMG V and (PMG III) of the LC Scale.

The first eight bars of the Prelude offer different types of slash chord nomenclatures. Choose the one you prefer.

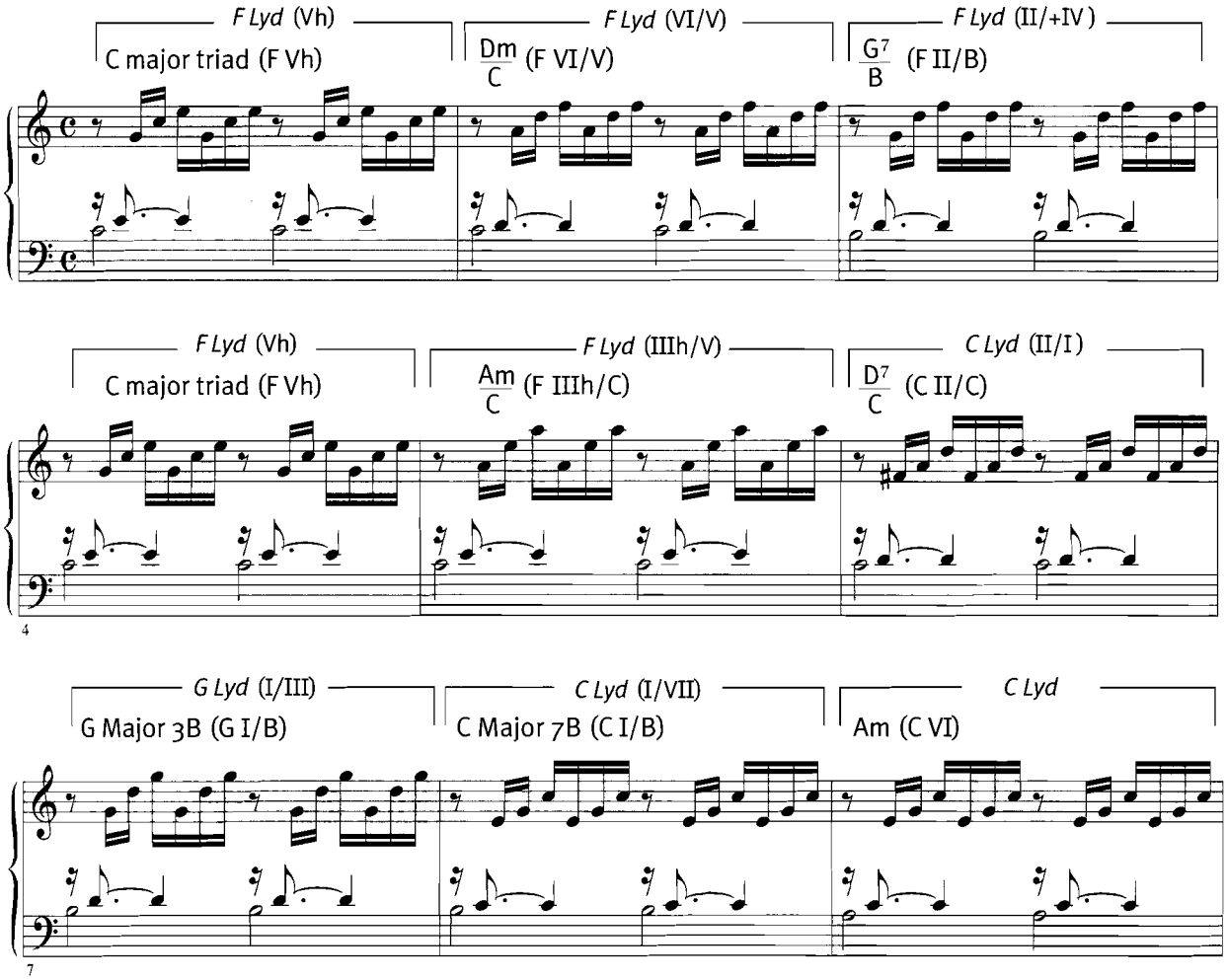
Bar 8 represents a C major chord with the major seventh degree of the chord in the bass. C Major 7B, C I/VII, and C I/B are different ways of defining the chord.

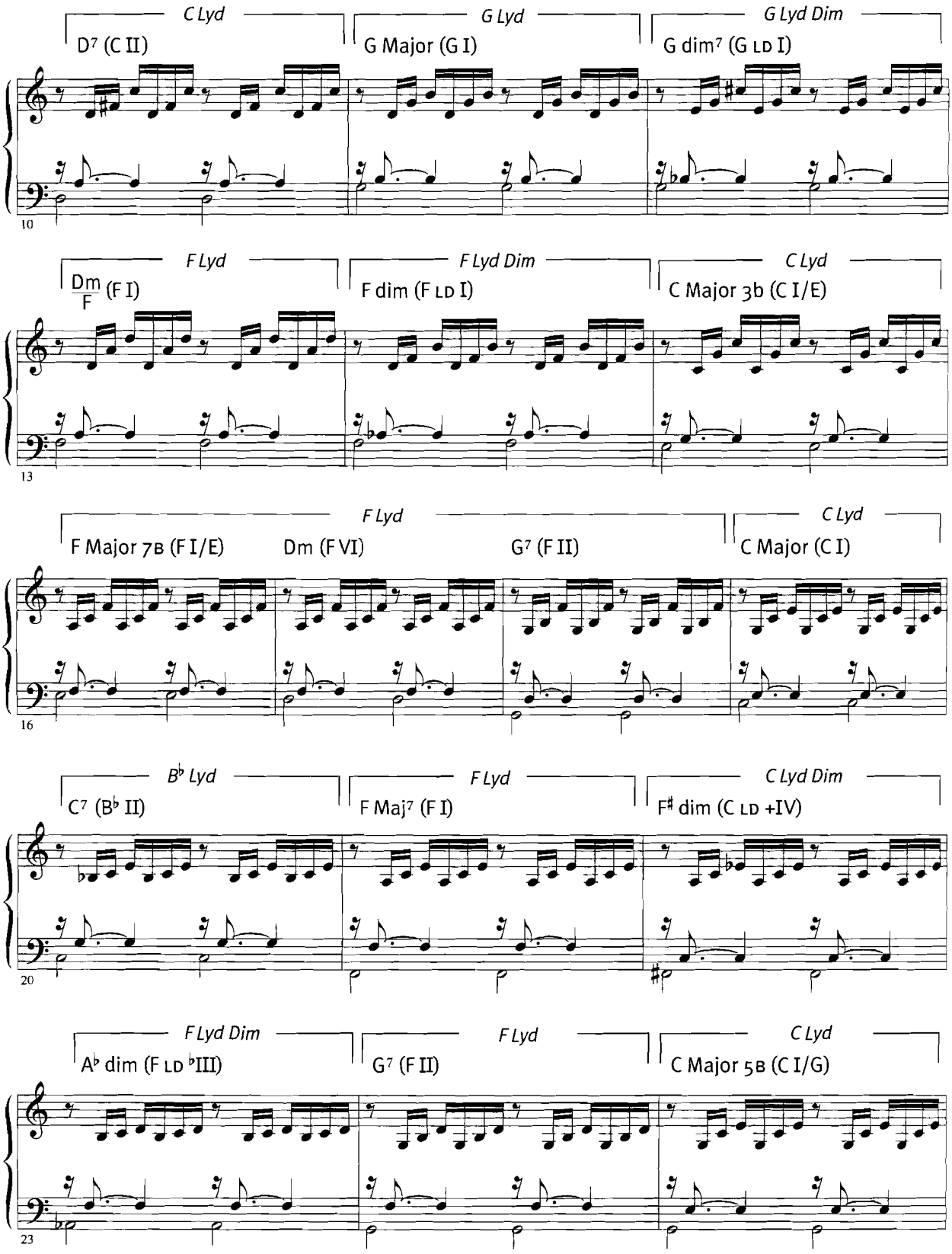
VTG Analysis: Using Conceptual Modal Genres and Method of Indicating Inversions

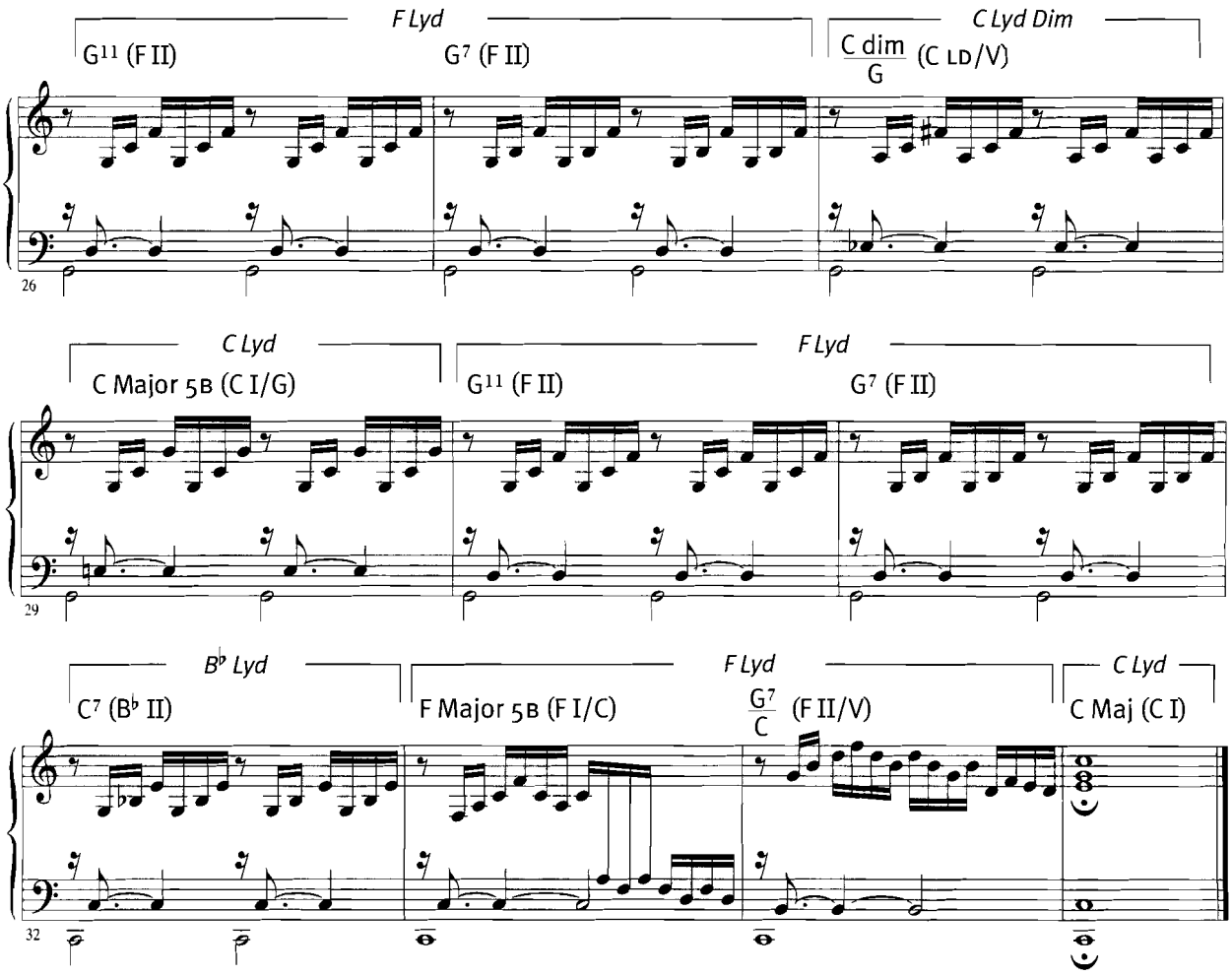
Prelude No. 1 (BWV 846)

from The Well-Tempered Clavier, Book I

JOHANN SEBASTIAN BACH




C Lyd
D7 (C II)
G Lyd
G Major (G I)
G Lyd Dim
G dim7 (G LD I)
10
F Lyd
Dm/F (F I)
F Lyd Dim
F dim (F LD I)
C Lyd
C Major 3b (C I/E)
13
F Lyd
F Major 7B (F I/E)
Dm (F VI)
G7 (F II)
C Lyd
C Major (C I)
16
B♭ Lyd
C7 (B♭ II)
F Lyd
F Maj7 (F I)
C Lyd Dim
F♯ dim (C LD +IV)
20
F Lyd Dim
A♭ dim (F LD ♭III)
F Lyd
G7 (F II)
C Lyd
C Major 5B (C I/G)
23



Prelude No. 1 is a simple, yet profound composition evolving on the level of vertical tonal gravity in its entirety. The first five bars of the Prelude are purposely given a Conceptual harmonic analysis[1] solely to prove the Lydian Scale's capacity to duplicate any major scale harmonic progression.

1. An analysis or use of harmony that involves any of the four conceptual modal genre of the LC Scale.

EXAMPLE VII:36

C I	C II	C V	C I
C major	D minor / C	G seventh / B	C major

It can also be analyzed as a Conceptual cadence within the F Lydian scale:

EXAMPLE VII:37

F Vh	F VI	F II	F Vh
C major	D minor / C	G seventh / B	C major

The four Conceptual modal genres of the Lydian Scale make it possible for any major scale cadence to be duplicated by the Lydian Scale commencing a fourth above the major scale tonic.

With respect to J. S. Bach's attitude towards the two mode (major/minor scale) system—which Gioseffo Zarlino (1517-1590) helped to establish as a virtual absolute in his *Istitutioni harmoniche* (1558)—Johann Kirnberger (1721-1783), a student of Bach's and a noted theorist in his own right, wrote "I can state that J. S. Bach found it necessary to write within the old church modes, as one can see from the Catechism songs, so many of them are written in this way."[1]

The Homogeneous Arising of the Four Horizontal CMG Triads within the Lydian Scale

The historical roots of the Lydian Chromatic Concept date back to Middle Ages (11th century), when the Catholic church officially codified a system of eight church modes.[2] Four of these were authentic (or primary) modes. These are composed of the white notes in the following octaves:

Dorian (D to D), Phrygian (E to E), Lydian (F to F), Mixolydian (G to G). Each AUTHENTIC mode had a PLAGAL (secondary) mode that was considered to be a derivative of its relative authentic mode. The plagal mode began on the tone a fourth below the tonic of the authentic mode. The F Lydian mode, therefore, had the Hypolydian mode[3]—containing all white notes in the octave (C to C)—as its plagal mode. However, both the authentic mode and its derivative plagal mode shared the same final. In other words, the C

1. *In Search of Bach's Authentic Musical Thinking,* by Goetz Tangerding
2. *Harvard Dictionary of Music* by Willi Apel. See "church modes"
3. Later becoming the Ionian mode and finally, the major scale.

Hypolydian plagal mode and the F Lydian mode both had the Lydian tonic F♮ as their final. The LC Concept confirms F♮ as the vertical *do* of the C major scale, the C major scale being an F maj 5B chord in its vertical state.[1]

Within any theoretical study claiming to be a comprehensive theory of music, both the vertical as well as the horizontal aspect of music must be included and thoroughly explained. For example, the Ionian mode on the fifth degree of the Lydian Scale (C to C in the F Lydian Scale) must be recognized as being a dual-state modal genre. In its medieval, plagal, Hypolydian, vertical state, the F Lydian Scale's Ionian mode on C sounds the Lydian tonic F and F major chord as its final vertical *do*. In this way, mode V (Ionian) of the F Lydian Scale founds and identifies itself vertically with PMG V F major 5B of the F LC scale.

In its horizontal (conceptual) state, mode V (Ionian) of the F Lydian scale sounds its mode V horizontal (major scale) *do*, C♮ and the C major tonic station chord as its final tonal center.

Both the vertical (Hypolydian) state and horizontal (major scale, Conceptual) state of the F Lydian Scale's Ionian mode on its Vth degree are among the twelve church modes listed in H. Glareanus's *Dodecachordon* (1547).[2]

As you know, the seven modes of the Lydian Scale provide seven of the LC Scale's eight Primary Modal Genres; the eighth is the seventh +5 PMG introduced by the Lydian Augmented Scale. A PMG represents the collective vertical essence of its associate chord families—that is, their collective vertical identity and vertical state.

However, four of the Lydian Scale's seven modes have a dual nature: they have a vertical PMG state and a horizontal CMG state, with either state being applicable on any of the three levels of tonal gravity. The four dual-state modal genre within the F Lydian Scale are as follows:

EXAMPLE VII:38[3]

F V (v)	F V (h)	F III (v)	F III (h)[4]	F II (v)	F II (h)	F VII (v)	F VII (h)
F I maj C	C V maj TRIAD	F I maj A	A III min TRIAD	F I maj G	G II maj TRIAD	F I maj E	E VII min TRIAD

1. See Chapter I, page 1, Example 1:1, first chord.
2. See *Harvard Dictionary of Music*, page 166.
3. See Reed Gratz's article on page 239.
4. See *Chromatic Fantasy and Fugue*, Chapter VII, page 168, bar 1, beat 2.

The eight vertical PMG and the four CMG together form the twelve essential modal genre (harmonic individualities) of the LC Scale. However, any of the four horizontal member scales[1] sounding on PMT degree I major or VI minor will also impose their horizontal color on these two fundamentally vertical PMT's of the LC Scale.[2] The result of this imposition establishes a horizontal feeling or color, but not necessarily a separate horizontal state equivalent to that of the four CMG. Duality between the vertical and horizontal aspects does exist on these two PMT degrees, but it is of a slightly less discernible quality.

The chief function of CMG is to serve as the basic major or minor chord for the horizontal state of its dual-state mode. Therefore, in relation to the relative CMG triad on their modal tonic degree, the four dual-state modes of the Lydian Scale sound in their horizontal state. These four modes sound in their vertical state relative to their PMG (vertical) chord rooted on the identical modal tonic degree. In either state, the tones of the mode remain the same.

However, PMG I major and VI minor serve as the root chords for both the seven vertical principal scales and the four horizontal member scales of the LC Scale. In this way, both of these pivotal chords adopt to either the vertical or horizontal disposition imposed upon them by any of the seven vertical or four horizontal member scales of the Lydian Chromatic Scale.

In other words, modes I and VI of the Lydian Scale do not have two separate chords to fully qualify them as dual-state modes. The I major or VI minor chord must serve this purpose for both the vertical and horizontal condition on these two modes. PMG I major and VI minor are so intrinsically and fundamentally vertical in nature that the four imposed horizontal scales sound more like official scales of the LC Scale in their context, taking on the quality of verticalized horizontal melodies. The symbols I(v)/I(h) or VI(v)/VI(h) are available, but not really necessary to use in defining chord/scale alliances formed on either of these two PMG of the LC Scale.[3]

The fundamental justification for the existence of the Lydian Chromatic Concept rests upon the Lydian Scale as the seminal source of tonal gravity,

1. See Chapter V, page 80.
2. See Coltrane's *Giant Steps* solo, Chapter V, page 95, bar 3.
3. Consider these more as courtesy symbols.

chord/scale unity and ultimately, the author of the entire vertical aspect of music.

Nevertheless, manifesting secondarily within the Lydian Scale as its "children" are the four CMG which represent horizontal states of the Lydian Scale. These states demonstrate the creative capacity which enables the Lydian Scale, the primary vertical scale, to secondarily produce as its children the four horizontal state CMG of the LC Scale: Vh major, IIIh minor, IIh major ♭7, and VIIh minor. Perhaps this is music's way of showing that the vertical aspect creates and understands the horizontal aspect in all and everything.

However, Western music theory's foundation on two scales, the Ionian mode I horizontal major and Aeolian mode VI horizontal minor, has not generated a reciprocal understanding of the intrinsic harmonic (vertical or dual-state) nature of the major scale modal system to which these two scales belong. This is especially true of the purely vertical modes: Lydian on F, Locrian on B and Dorian on D within the C major scale. This omission may be music's way of saying that the horizontal aspect neither creates nor understands the vertical aspect in all and everything.

The Ionian, Aeolian, Mixolydian and Phrygian Modes on the tonic, sixth, fifth and third degrees of the major scale were undoubtedly not recognized as dual-state modes of that scale by Western music theory.

The dual-state modes on degrees V, III, II, and VII of the Lydian Scale are self-organizing in the sense that the elements supporting the vertical and horizontal state of those modes are already in place. For example, the CMG major or minor triad, the chief function of which is to serve as the basic tonic station chord for the horizontal state, already resides on modal tonic degrees V, III, II and VII of these four Lydian Scale dual-state modes. At the same time, the modal tonic degree of each dual-state mode is also the PMT degree for the chord representing its vertical state.[1]

The source of this organic and objective tonal organization is a single, miraculous scale: the Lydian Scale. One can sense that the horizontal state

1. The Lydian Scale's dual-state modes are those that produce the following two chords on their modal tonic degrees:

(a) a PMG chordmode to which the mode relates in a vertical manner.

(b) a non-identical CMG tonic station chordmode to which the mode relates in a horizontal manner.

manifested by the four dual-state modes of the Lydian Scale is clearly the 'child' of the Lydian Scale, the most vertical of all scales. By contrast, a condition of duality existing on PMT I major or VI minor is activated only by the imposition of a vertical principal scale and a horizontal member scale on either of these two modal tonic degrees of the Lydian [LC] Scale.

The seven vertical principal scales and four horizontal member scales of the LC Scale are, of course, rooted on the Lydian tonic. Their opposite features are discussed thoroughly in Chapter I. In relation to PMG I major or VI minor, it is the vertical or horizontal identity of the imposed scale that establishes a corresponding vertical or horizontal scale color. Even though they possess opposing characteristics, it is the close proximity of these two types of scales sounding on one and the same I major or VI minor chord that causes the line of demarcation between the horizontal and vertical scale to become ever so slightly blurred, with a slight weakening or bending or blending of the horizontal color occurring. That is, the horizontal color is less sharply defined and a bit more yielding or verticalized. It is this quality that allows mode I major and mode VI minor horizontal scale melodies to be referred to as verticalized horizontal melodies of the LC Scale. Verticalized horizontal melodies are slightly more easily accommodated on the level of VTG.

However, the line of demarcation between the horizontal and vertical states of the four CMG of the Lydian [LC] Scale remains quite distinct, due to their corresponding PMG root chord and CMG root chord being of very different types.

Adding to the validity of the VERTICALIZED HORIZONTAL MELODY produced by the four horizontal member scales on PMG I major and VI minor chords is the neutralizing nature of the auxiliary diminished scale, one of the seven vertical principal scales of the LC Scale. The auxiliary diminished scale contains both the definitive vertical interval (C to F♯), and the strongest horizontal interval (C to F). The horizontal (active) force and vertical (passive) force of the ancient Law of Three is perfectly blended within this scale, making it an applicable scale in both situations. But, more importantly, the auxiliary diminished scale indicates the presence of the neutralizing force amongst the eleven member scales of the LC Scale. Seven of these are principal scales representing the VERTICAL PASSIVE FORCE, and four are horizontal scales representing the LINEAR ACTIVE FORCE. The auxiliary diminished scale

is the NEUTRALIZING FORCE of the Law of Three, a cornerstone of ancient esoteric philosophy.[1]

If the condition featuring the imposition of the four horizontal member scales on PMG I major and VI minor is compared with that of the four CMG on modal tonic degrees V, III, II and VII, of the Lydian [LC] Scale—solely for the sake of determining which of these two horizontal conditions came closest to having a natural, genuine, intrinsic, and unified relationship with the LC Scale—then there can be little doubt that the four CMG would win this judgment handsomely. Not only does each CMG have a separate chord in place for its separate states (PMG and CMG) but, additionally, all four dual-state modes are fully manifested within the LC Scale's most ingoing tonal order, the seven-tone order.

Conversely, the horizontal condition that potentially exists within PMG I major or VI minor can be activated only by the extrinsic and deliberate act of imposing any of the four horizontal member scales on these two PMG of the LC Scale. Separate modal genre for the vertical and horizontal colors of these two PMG don't exist. PMG I major chords serve both vertical and horizontal member scales of the prevailing LC Scale. PMG VI minor chords serve both vertical and horizontal member scales of the prevailing LC Scale.

Also bear in mind that in order to form any of the four horizontal member scales, one must reach out for the eleven-tone order's fourth degree (F, in the key of C). The four horizontal member scales still remain children of the LC Scale's vertical order of tonal gravity and therefore, should be viewed as verticalized horizontal scale colors (more like official scale colors) manifesting within PMG I major or VI minor of the LC Scale.

Positioned on the Lydian tonic, these four horizontal scales have a long-standing cultural right to remain there. However, the question remains:

> *Can any horizontal scale occupy the position of THE PRIMARY SCALE of a comprehensive, all-encompassing theory of music? To be "all-encompassing," a music theory must include a thorough explanation of music's vertical aspect, while omitting nothing within the scope of equal temperament. Can any horizontal*

1. "G.I. Gurdjieff," from *In Search of the Miraculous* by P.D. Ouspensky. Harcourt, Brace and World, Inc. 1949.

scale be the primary scale of a theory which finds a new approach to the inexplicable and, in that way, keeps on growing?

The relatively few books on philosophy I've read say that all phenomena (from microcosmic to macrocosmic) owe their existence to the interaction of three forces.[1]

Existing in the atom and in music are:

1. The *Active* Force (proton: positively-charged particle = HTG)
2. The *Passive* Force (electron: negatively-charged particle = VTG)
3. The *Neutralizing* Force (neutron: uncharged particle = SVTG)

These books also say that placing the lower above the higher leads to duality. Duality and its side effects, they claim, are the chief cause of suffering on Earth. If music is saying that its vertical aspect represents the higher level, then Western music theory followed Western culture's trend of placing emphasis on the active, linear, goal-oriented, horizontal mind set that has dominated Western thought and actions for centuries. These forces don't change; they are always present in the required balance. But when we humans allow ourselves to become blind to the second and third force, we invite the "active force" alone to rule life, and soon, the Darwinist aspects of that condition become more and more apparent. A plethora of small, conflicting laws sink to the level of triviality, while multiplying in number. The result is less and less freedom. Side effects from the lack of unity can be expected as a manifestation of the dual, linear, resolving nature of active force. Knowledge having its source in one of the other two forces is completely ignored. Mediocrity—the hand-maiden of violence—flourishes, while the level of physical violence becomes more prevalent, intense and brutal. Real innovation is unacceptable, but can't be killed altogether. It must have been times like these which spurred great innovators like Bach to break or circumvent all the small laws, "avoid notes," and develop their own secret approaches.

Tough times offer the best conditions for one's essence to grow. Be in touch with your essence; it is always trying to be in touch with you and guide

1. See *In Search of the Miraculous* by P.D. Ouspensky.

you. It bears your logo from the stars and knows your mission on this planet . . . this time around. Let your essence guide your life.

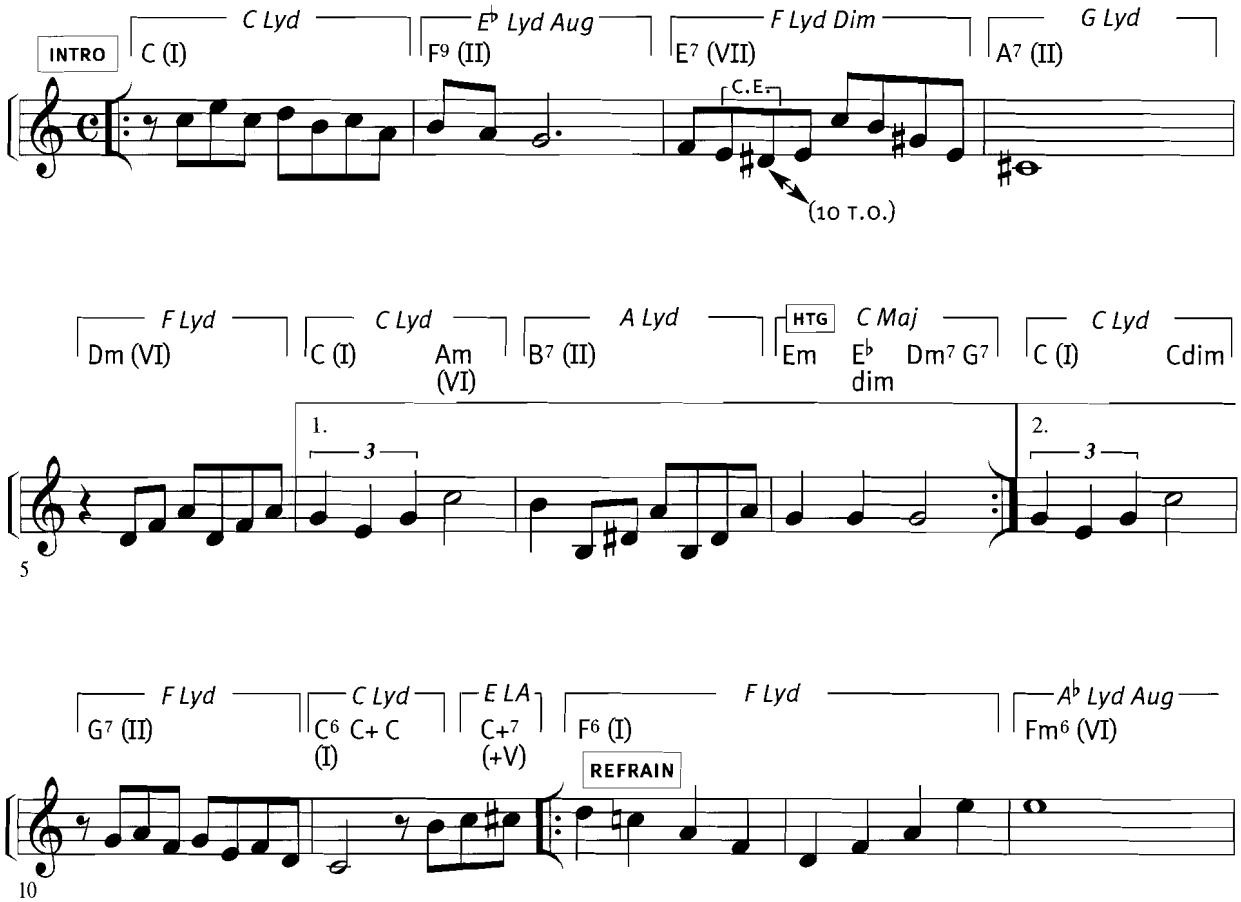
Naturally, you must exercise common sense. I don't know if there are bad essences or not. But I prefer thinking that if something tells you to commit genocide against an entire race, or to be a serial killer, or to impose something on someone against their wishes, that you'd observe such impulses and reject them as something your personality associates with negative experiences coming from life. The voice of a negative personality is something we have to struggle with. The voice of essence could not be negative.

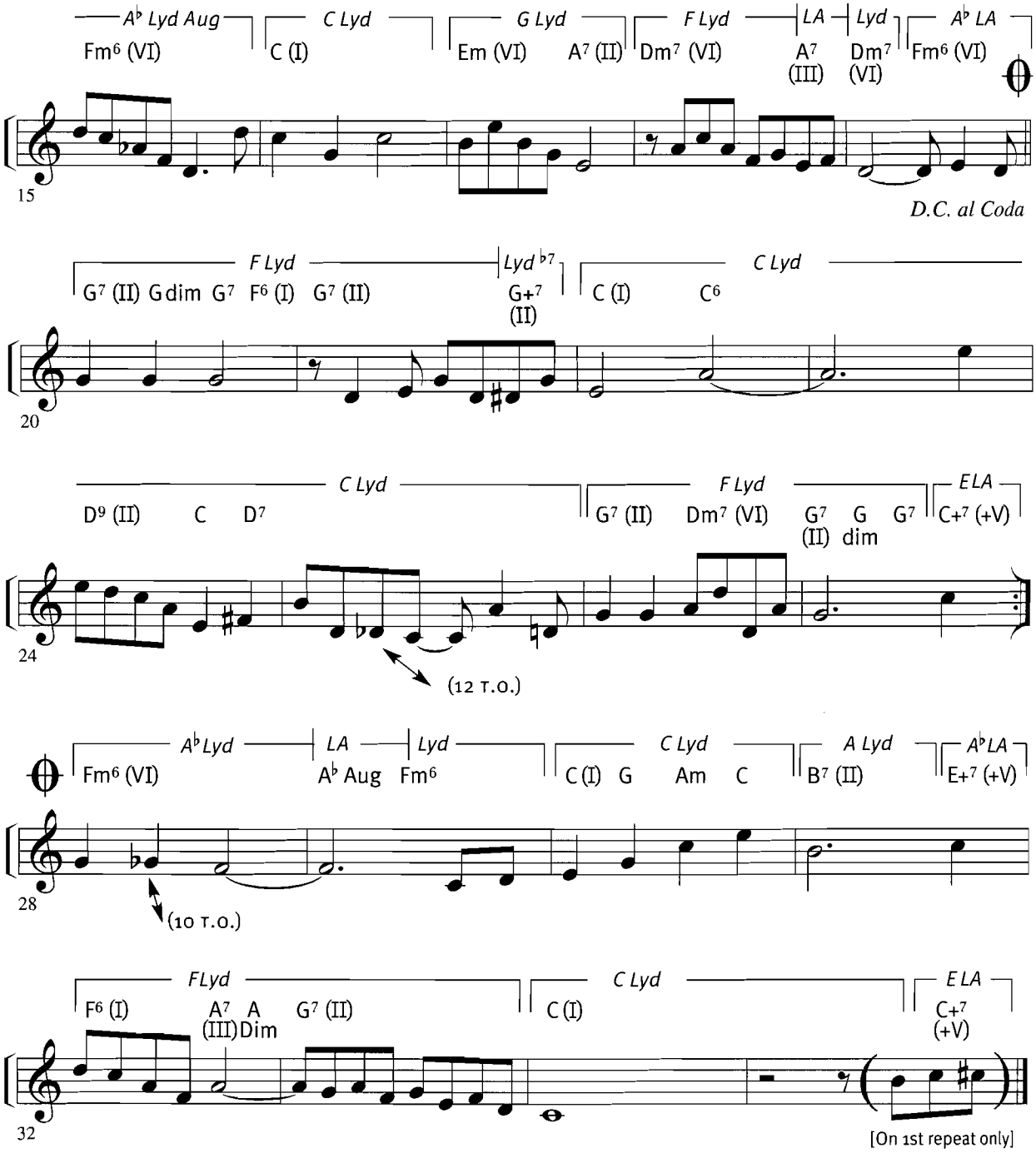
EXAMPLE VII:39

Star Dust

VTG Analysis

HOAGY CARMICHAEL




A♭ Lyd Aug
Fm6 (VI)
C Lyd
C (I)
G Lyd
Em (VI)
A7 (II)
F Lyd
Dm7 (VI)
LA
A7 (III)
Lyd
Dm7 (VI)
A♭ LA
Fm6 (VI)
15
D.C. al Coda
F Lyd
G7 (II) G dim G7 F6 (I) G7 (II)
Lyd ♭7
G+7 (II)
C Lyd
C (I) C6
20
C Lyd
D9 (II) C D7
F Lyd
G7 (II) Dm7 (VI) G7 (II) G dim G7
ELA
C+7 (+V)
24
(12 T.O.)
A♭ Lyd
Fm6 (VI)
LA
A♭ Aug
Lyd
Fm6
C Lyd
C (I) G Am C
A Lyd
B7 (II)
A♭ LA
E+7 (+V)
28
(10 T.O.)
FLyd
F6 (I) A7 (III) A Dim G7 (II)
C Lyd
C (I)
E LA
C+7 (+V)
32
[On 1st repeat only]

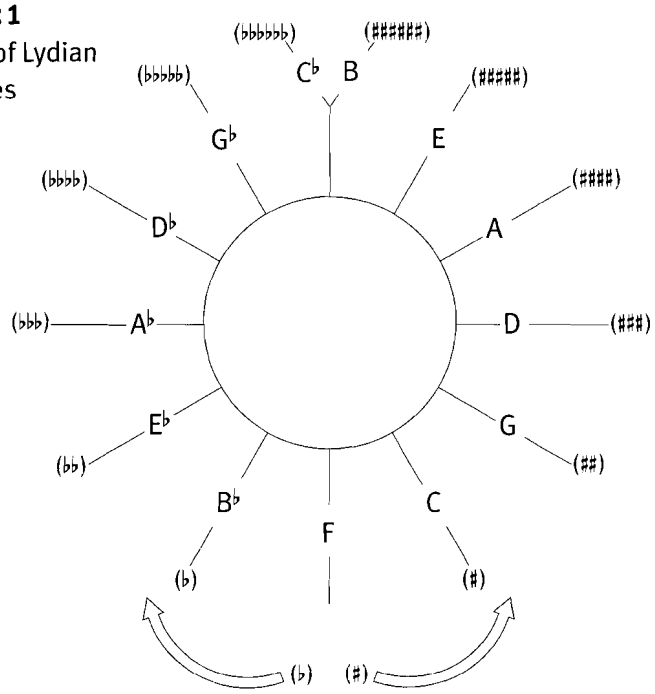
CHAPTER VIII

Summation of the Level of Vertical Tonal Gravity

Key Signatures of Lydian Chromatic Scales

In modern music, the term "key" has lost much of its significance. Composers modulate freely from key to key, without ever changing the initial key signature. This practice, done consciously or unconsciously, suggests a new aesthetic, which regards the "key" of the music as a nominal tonal center (of a pro-forma scale) which resides over the music primarily as a point of reference. This practice readily allows other keys to prevail when the condition demands, without changing the key signature. Remember that within the level of VTG, the musician freely relates to parent LC Scales dictated by

EXAMPLE VIII: 1
Key signatures of Lydian Chromatic Scales

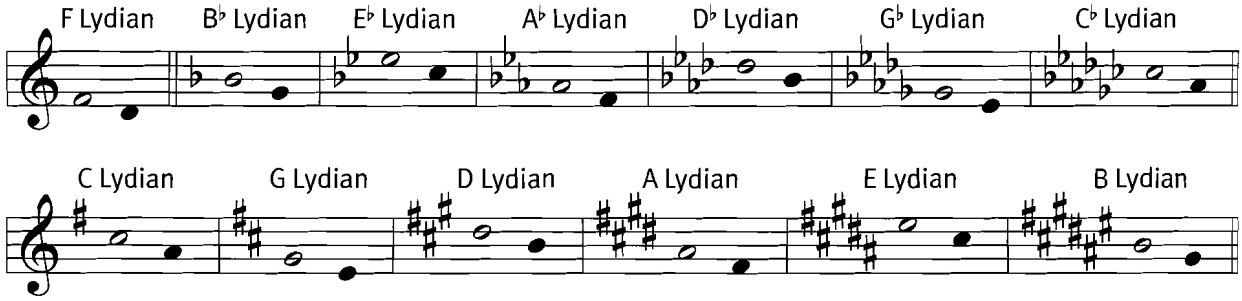


chords, without ever feeling compelled to indicate their key signatures. This modern concept of "key" seems to place it with a new aesthetic which more or less regards the main function of a key to be that of a facilitator or an aid in the execution of the music.

A single LC Scale has the scope of all of equal temperament, and contains all other LC Scales as secondary expressions of its tonal levels, while being, itself, a secondary expression of their tonal levels. Therefore, it stands to reason that a LC Scale is best suited to function as the "key" for modern music.

The "key signatures" in Example VIII:2 correspond to the twelve Lydian Scales; their Lydian tonics are represented by whole notes.

EXAMPLE VIII:2



The black notes in Example VIII:2 represent the VI minor modal tonics for each of the twelve Lydian Scales. The minor mode of a Lydian Scale is not given key status. Instead, it is recognized as a mode of its respective key. A composition in G minor is referred to as a B♭ Lydian mode VI minor composition. The B♭ LC Scale is therefore the overall key-designating source for a composition based on the G minor tonality.

Within the circle of Lydian Chromatic Scale keys (Example VIII:1), the six o'clock position is reserved for the overall LC Scale and its keynote, the overall Lydian tonic (F♮ in this example). The overall LC Scale is the Lydian Concept's term for the "key" of an entire composition, or a significant movement thereof. Any of the twelve Lydian tonics shown in Example VIII:2 may function as the overall key of a composition. As the designated key for the music, its capital letter will rest in the six o'clock position of a circle that shows all twelve Lydian tonics/LC Scales connected to the overall Lydian tonic/LC Scale by intervals of fifths. Ranging in a clockwise direction from the overall

Lydian Tonic/LC Scale (six o'clock), the six LC Scales having a flat relationship with the overall LC Scale descend for a distance of six fifths. The remaining five Lydian Tonics/LC Scales having a sharp relationship to the overall Lydian Tonic ascend from it in a counterclockwise sharp direction for a distance of five fifths.

The key signatures appearing in Example VIII:2 are official signatures for the twelve LC Scales. Therefore, the key serving as overall parent LC Scale should be indicated by this signature in the music. The whole notes and black notes shown in Example VIII:2 are the Lydian tonic and PMT VI degrees of the LC Scale, representing its I major and VI minor tonic stations, respectively. The I major and VI minor tonic station chords of any LC Scale may serve as cadential end goals (finals) for chords of other LC Scales which project a tendency to resolve (as non-finals) to either of these two finalizing tonic stations of the LC Scale.

The tone F natural, shown in the six o'clock position of Example VIII:1, designates the F LC Scale as the overall LC Scale for an entire composition, or a significant movement of it. This means that for the duration of a composition or movement, the F LC Scale will serve as the key of the music.

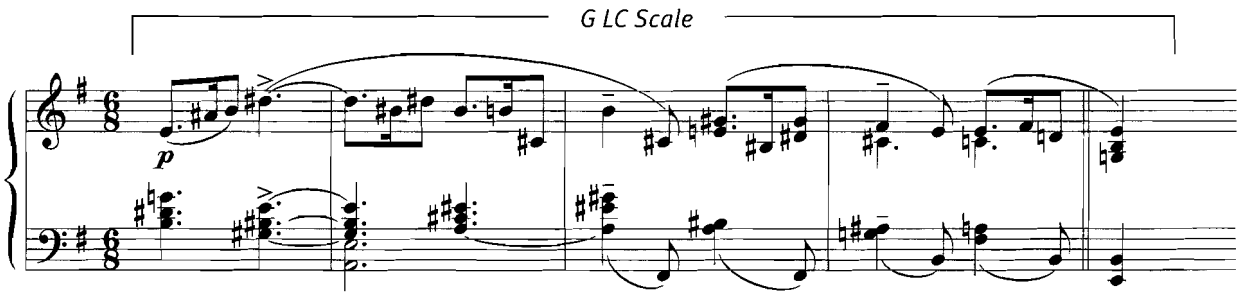
This overall (SUMMITAL) key presides over the corresponding summital area[1] nominally, as a point of reference, readily allowing other scales to prevail when the condition arises, with or without an accompanying change of key signature. The decision of key signature is left to the aesthetic judgment of the composer. The floating key aspect of much of contemporary tonal music[2] makes scales lacking accidentals in their signatures (the F LC Scale or the more traditional C major scale), the keys of choice for compositions of the floating key type. This might be worth considering in choosing a key for a composition. Of course, if a key for the music is already indicated, it should no doubt prevail.[3] In any case, the six o'clock position of the circle of LC keys is reserved for the overall Lydian tonical/LC Scale.

It must be noted that the assigning of a key signature to a composition implies that all of the music of the composition can be reconciled with and

1. The summital area (or level) refers to an entire composition, or extensive movement thereof, and, consequently, to the overall (summital) key presiding over those areas.
2. Tonal music: music evidencing tonical biases.
3. See further ahead in this Chapter.

justified by that key. For example, G major is the key indicated by the key signature for the "Forlane" from Ravel's *Le Tombeau de Couperin*. However, in the opening five bars of the piece, the only link with G major is the resolution of its chords to the E minor tonic station in bar five.

EXAMPLE VIII:3



The melody itself bears no resemblance to the G major scale, or, for that matter, to the G Lydian Scale; in fact, the tone G♮ does not appear in the melody. Harmonically, Ravel was obviously rooted in the E minor chord, but his overall melody in this five bar region takes the shape of an E Lydian +5, ♭7 Scale (E F♯ G♯ A♯ B C C♯ Dn D♯). This is a rather outgoing form of melody which the G LC Scale accommodates and defines (as an SMG melody), while the G major scale cannot.

The use of the tones B♯ and C♯ as accidentals might indicate that Ravel's vertical thinking would be better accommodated by the G LC Scale than the G major scale, and there is no doubt that his melody was the result of his vertical approach.[1] The G major scale key signature could only have served in the construction of the Forlane's progressional harmony. But even in this respect, it is my view that the Lydian Chromatic Concept offers a freer and more objective view of what is termed by traditional Western theory as "functional harmony."[2]

It is for the sake of accommodating the prevailing custom at the time in which the music was conceived that the analyst accepts the key signature designated by the composer. However, this concession is made only with the understanding that a LC Scale organization is substituted for the major scale

1. See Forlane, Chapter VII, page 155
2. Progressional harmony is examined in Volume II of the *Lydian Chromatic Concept of Tonal Organization*.

organization indicated by the traditional key signature. If the major scale indicated by the key signature actually occurs, it does so as one of the twelve member scales of the LC Scale on its tonic tone.

In summary, the musician may substitute the traditional major scale "key" signature for any one of the twelve LC Scale "key" signatures represented in Example VIII:2 under the following conditions:

1. ANALYSIS: that the most appropriate LC Scale organization be used in the process of analyzing a piece whose period places it within the custom of the traditional major scale key signature.
2. COMPOSITION: that the most appropriate LC Scale organization be used in the process of composing a piece intended to be primarily in the major scale.

Still, it cannot be too strongly emphasized that the essential scale for modern music is the LC Scale, designated according to key signatures shown in Example VIII:2.

The Lydian Chromatic Concept is a tonal gravity approach which relies on the prevailing LC Scale as its substantive "key." The prevailing LC Scale is the LC Scale of current attention, whose tonal organization (for the period of its duration) is being referred to for the realization of the music, especially that of its most important ingredient, the dominant melody.

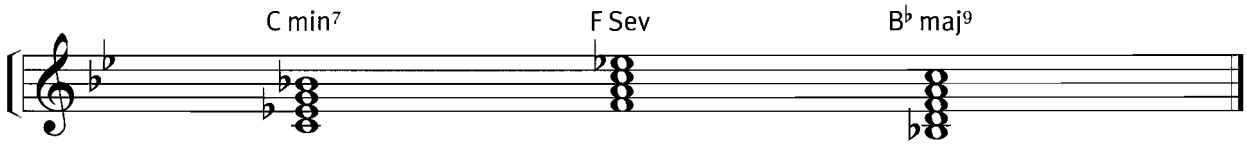
The rate of change of prevailing LC Scales is controlled by the prevailing level of tonal gravity. Each of the three levels of tonal gravity has a different frequency of prevailing LC Scale occurrence. As these prevailing scales or "floating keys" enter and exit within the context of the prevailing level of tonal gravity, the composer's aesthetic judgment and common musical sense will dictate whether or not a key change is necessary.

The Practical Need for the Level of Vertical Tonal Gravity; The Other Scalar Organization for a Chord.

Traditional Western music theory bases its tonal organization on the major scale. Within its context, chords are formed by structuring intervals of thirds ascending from the root of the chord (root, 3rd, 5th, 7th, 9th, etc.).

EXAMPLE VIII:4

Traditionally Definable Chords (Key of B♭ Major)



As example VIII:4 shows, Western music theory's concept of harmony is based on chord/scale relationships which result from assigning a position (or function) to the roots (modal tonic degrees) of especially those triadic chords within the major scale which evidence the strongest tendency to resolve to its tonical *do*.[1] This indicates that Western music theory's idea of harmony is founded on, and belongs exclusively to, the linear, goal-oriented, functional, horizontal aspect of harmony which manifests as progressions of non-final chords resolving (in linear time) to a finalizing major or minor tonic station goal. It is in this horizontal, resolving manner that the tonal organization of classical Western harmony unfolds.

Example VIII:4 shows a typical functional cadence within the B♭ major scale. Classical Western music theory also imposes this same II, V, I functional cadence within the relative VI, G minor (Aeolian) mode of the B♭ major scale.

G MINOR CADENCE WITHIN THE B♭ MAJOR SCALE

II A minor 7th ♭5	=	Locrian VII-A min 7th ♭5 chord
V D seventh ♭9	=	Phrygian III-D seventh ♭9 chord
I G minor	=	Aeolian VI-minor chord

The notion of chord/scale unity as the logical approach to the vertical manifestation of harmony was simply overlooked by classical Western theorists. The understanding that the term *HARMONY* means *UNITY*, an already complete *VERTICAL ONENESS* of elements existing in the momentary *NOW* above time was either missed or dismissed by the founding fathers of Western classical music theory.

The fundamental orientation of the Lydian Concept is firmly rooted in the vertical idea of chord/scale unity, as conferred by the principle of tonal gravity. The tonal organization founded on the Lydian Tonic (see Chapter I),

1. Referred to as "tonic stations" in the Lydian Chromatic Concept.

creates a cosmic unity for the chord resulting from the imposition of any type of I major chord on any of the PMT's of the LC Scale. That state of unity is created instantaneously, above time. This is how chords are born in the Lydian Chromatic Concept.

At the same time, there exists within the LC Concept, the linear, goal-oriented horizontal aspect of harmony. This is extensively treated in Volume II of the Lydian Concept. In fact, the Concept's unique and objective approach to progressional harmony serves as the basis for the Level of HTG.

Since Bach's time (1685–1750), there has been a steadily growing interest in the chord as an autonomous individuality with an organization of its own. Late 19th century composers Wagner, Stravinsky, Mahler, and Schoenberg (early in his career) intensified the interest in the vertical aspect shown by Beethoven and other masters who preceded them. However, with no single, cohesive, all-embracing theory of music, innovative composers like Ravel, Ellington, Varèse, Debussy, Ives, and Stravinsky were left to their own devices. Their music, full of order and discipline, broke all the rules of theory with daring and imagination. Their music inevitably implied that innovative jazz and modern symphonic composers had become their own theorists, the results being a profusion of secret methods and personal approaches which the creators guarded zealously. And why not? These personal theories were the foundation of their individual genius and identity.

It was in this milieu that the Lydian Concept was developed, with roots firmly entrenched in the principle of tonal gravity as the underlying force of equal tempered music. Earlier editions of the Lydian Concept suggested that the totality of equal temperament might yield its secrets to a science of tonal gravity. It is the aim of both volumes of this edition of the Lydian Concept to lay a strong foundation for the existence of the science of tonal gravity.

And why should such a theoretical work not come from the jazz experience? After all, the first violinist of a symphony orchestra never had to improvise down the chord stream of a piece to create an aesthetically beautiful melody. One might ask why a theory of music, if great music was created by great artists without a theory? I have personally never known a great innovator who hadn't developed a strong theoretical approach, nor have I met one eager to divulge his or her personal theory.

When I began to understand the fundamental role of tonal gravity in the

tonal organization of the Lydian Concept, I realized that I couldn't keep something so powerfully evident in nature a secret. I also thought that if a music can be huge, objective and beautiful, why shouldn't a theory of music be the same?

Today I would say that, like a house, a truly objective theory of music should preserve that which in the past was dedicated to excellence, integrity, innovation and beauty, and preserve and shelter that which in the present is dedicated to those same qualities, accommodating, inspiring and preserving those attributes in future generations.

J. S. Bach was abundantly blessed with all these qualities. Although his music proves him to be a supreme master of progressional harmony (the horizontal aspect of the principle of tonal gravity), he simultaneously evidences a profound vertical recognition and consciousness of each prevailing chord[1] as an autonomous singularity, having an innate scalar organization of its own (the vertical aspect of the principle of tonal gravity). In this regard, Bach and Coltrane are like-minded.

The rich verticality of Bach may be due to his reliance on the church modal system as his source of tonal organization, a system which included both the Ionian and Aeolian modes as plagal (secondary) modes since the 9th century. It is widely thought that Bach rejected the broadly accepted idea of Zarlino that only the major and minor modes existed.

In 1945, chord symbols served as references for the jazz soloist negotiating the chord stream of a song in order to create a meaningful, improvised melody. The chord symbol featured a capital letter, followed by a harmonic genre or type. For example, a D seventh chord indicated the tone D as its root. Not necessarily shown, but understood to be a part of the identity of the chord, was traditional Western harmony's assignment of a functional term like dominant (or simply roman numeral V) to the D seventh chord. In this way, a chord's functional cadencing tendency to the tone G natural as the tonic of a G major or G minor cadence chord is acknowledged. All the chords produced on the degrees of the G major and G minor scales are given a functional roman numeral, thereby establishing those scales as horizontal environs based exclusively on the horizontal aspect of harmony, i.e., the resolving tendency of their non-finals to finals.

1. The chord of current focus and momentary attention.

Put another way, when considering any type of chord, traditional theory made two tonical associations: it acknowledged the chord's root, and also the tonic of the scale within which the chord performed a designated cadencing function. However, the scalar organization to which chords are connected in classical theory is a horizontal, resolving organization based solely on the horizontal, goal oriented, linear time bound aspect of harmony, rather than chord/scale unity, the vertical aspect of harmony.

Given these limitations, there would be no way for traditional Western music theory to accommodate the evolving vertical complexities of twentieth century tonality, nor its expansion into the pantonic and atonic realms of equal temperament.

Traditional theory provided a tonal organization for chords within the context of the major or minor scale indicated by their resolving tendency. As Example 1:1 shows, the horizontal scale does not completely fulfill, agree with or satisfy the vertical nature of an individual chord.

In the Lydian Chromatic Concept, a different kind of tonic coexists with the root of each chord. This is the Lydian Tonic, the most centrally important tone of the chord's parent LC Scale, the scale whose vast tonal environment houses a chord's own unique vertical tonal organization. All chords, except Lydian Tonic (I) major chords, have these two tonics-the chord's root and the Lydian tonic of its parent scale/parent LC Scale. The interval formed between those two tonics of a chord is referred to as the Lydian Tonic Interval.

Memorizing the Lydian Tonic Interval for various types of chords greatly enhances the practice of connecting chords with their parent scale/parent LC Scale tonal environment, the essential type of parent LC Scale occurring on the level of vertical tonal gravity.

A musician on the Level of Vertical Tonal Gravity (VTG) relates to the chord of the moment (the prevailing chord) and its parent scale.

Let's say, for example, that the vertically minded musician wishes to create a melody which reflects the harmonic genre of the D seventh ♭9th chord; that is, the musician wishes to have his or her melody fall on this chord. Using the traditional approach, the seasoned innovator would have simply used the tones of the chord as a frame on which to embellish its seventh ♭9th genre with certain passing tones, or other altered tones of the chord.

Using this same chord, the Concept oriented musician would regard the

C Lydian Diminished Scale within the larger C LC Scale to be the parent scale/parent LC Scale of the chord. In fact, when the C Lydian diminished Scale, in either stepwise or tertian order, is sounded over the root tone of the chord ($D^{\natural}$) alone, it produces the complete sound of D thirteenth $^{\flat}$9th, the mode II principal chord of the C Lydian Diminished Scale.

The Lydian Chromatic Concept simply provides the musician on the Level of Vertical Tonal Gravity with the primary parent scale/parent LC Scale for the chord whose harmonic genre he wishes to express immediately. It makes available the scale sounding an absolute unity with the chord, the scale to which the chord owes its primary origin, its true parent scale.

However, in providing the parent LC Scale, the Concept also makes available the broadest tonal environment from which both the chord and its parent scale evolve; all the tonal resources of this vast cosmos of the prevailing chord become usable.

As previously stated, the initial purpose of the Concept was to provide a new way to relate to individual chords. This was accomplished with the formulation of the Level of Vertical Tonal Gravity.

Chapter III discusses, in a more detailed manner, the creation of the primary modal genre (chord families) of the LC Scale. Learning how scales parent chords is the basis for the Level of Vertical Tonal Gravity, so you may want to try to understand it, or you may want to skip ahead and get directly into the method.

This way of looking at music has no need to impose subjective rules (good, bad, right, wrong) on its students. It is under only one law, and that is the law of tonal gravity. Gravity is not right or wrong; it is only being and doing, ingoing or outgoing in relation to a prevailing Lydian Tonic. The Concept regards the individual's essence as sacred, and encourages one to follow its highest impulses.

The Ascendancy of the Major Scale

The reasoning underlying the ascendancy of the Ionian major and Aeolian minor scales to the position of being the fundamental tonality for Western music seems, for the most part, subjective, almost to the point of happenstance. The most important contributions to this should be mentioned:

1. As stated earlier, Henricus Glareanus[1] expanded the number of church modes from 8 to 12 in his *Dodecachordon* (1547). The Ionian mode on tonic tone C was number 11 on his list.
2. In that same year the Council of Trent, a body of high-ranking priests of the Catholic Church, meeting out of a need for "purifying and desecularizing the sacred service and establishing a reformed mass," accepted the 12 modes of Glareanus. Secular music based on the Ionian mode had gained in popularity over the centuries. In time, this may have caused singers to have a problem with what they perceived as the devil's interval (F to B♮ in the Lydian Scale).
3. The growing popular intolerance for the Lydian Scale in those times was based on the feeling that the scale was going nowhere. Factually, it wasn't going anywhere in linear time, except up into the momentary *NOW* of higher levels of tonal organization. However, the notion that life being lived and suffered for the sake of one's own spiritual evolution, with the reward coming in the hereafter, was also beginning to lose out to the linear goal of freedom now; that is, freedom from earthly discomforts and sacrifices.
4. Emerging Western technology no doubt played a role in implanting into the minds of those contemporary beings a plan to exploit the riches of the less technically developed and, therefore, less armed lands, so marches were needed. The "Star Spangled Banner" managed to camouflage its being in the Lydian Scale quite well. However, the favored scale of the linear, goal-oriented Western mind grew to be the major. It was the preferred scale for Cartesian rationalists, predators of various stripes, imperialists, marching bands, the military-industrial complexes, and Western minds, in general, on all levels of society.
5. Gioseffo Zarlino (1517–1590) in *Le istitutioni harmoniche* (1558) renumbers Glareanus' twelve modes, placing the Ionian first; Zarlino appears to have been the first to believe that there were only two modes, major and minor.[2]

1. See "Church modes" and "Major/minor," *Harvard Dictionary of Music*.
2. See previous footnote.

6. Jean-Philippe Rameau (1683-1764), in his *Traité de l'harmonie reduite à ses principes naturels*, firmly establishes the major/minor system with his concept of *centre harmonique*.[1]

For further discussion of the history of the major scale, see the article by Reed Gratz in Appendix I.

The Overtone Series and Pythagorean Justifications for the Lydian Chromatic Scale

As volume 1 concludes, it might be appropriate to compare the LCCTO with the overtone series (chart, p. 2). Both systems function simultaneously in the production of tonal material for a musical area. The overtone series is a statistical table of measurable multiple vibrating frequencies, usually heard as a single distinct pitch referred to as the fundamental, or first partial. The frequencies are measured in cycles per second (cps.). The fundamental determines the pitch because it is the lowest and, therefore, loudest frequency of a number of simultaneously vibrating frequencies called partials (harmonics or overtones). These form the composite tone heard as a distinct pitch.[2] The overtone series reveals the number of vibrations per second of these fundamental pitches, as well as that of their simultaneously vibrating (and less audible) upper partials. Lower frequency corresponds to lower pitch, higher frequency to higher pitch.[3]

The chief function of the overtone series is the generation of pitch. This certainly must precede the numerous attempts made to use it as a basis for a system of tonal organization somewhat mysteriously suggested by it. Such an organization has not been established as the chief domain of the overtone series. However, since the overtone series is taken as an absolute in the field of acoustics, any correlation between it and a system of tonal organization (vis-a-vis the Lydian Chromatic Concept or traditional Western theory) helps to validate that system.

1. See "Theory, musical," *Harvard Dictionary of Music*.
2. The overtone series is, therefore, amplitudinal, rather than a gravity-based phenomena.
3. See *Sonic Design—The Nature of Sound and Music*, by Pozzi Escot and Robert Cogan, page 434. Also see "Overtone Series," Chapter I, page 3 of the current work.

Correlations between the Overtone Series and the Lydian Chromatic Concept

The creation of an interval of a fifth immediately after the initial octave is the richest contribution the overtone series could offer to a tonal gravity based organization like the Lydian Concept. Either tone of the octave C to C can be the tonic, but the interval of a fifth universally yields tonical authority to its lower tone. Its position as the first tonically biased interval to occur in the lower part of the overtone series endows the fifth with a supremely powerful tonical magnetism, confirming it as the strongest harmonic interval of that huge vertical edifice. The fifth is the cornerstone of the Lydian Chromatic Scale, as well. Both systems are rooted on the interval of a fifth as their strongest harmonic interval.

The following definition of the term scale emphasizes the seminal role of the interval of a fifth in establishing the Lydian Chromatic Scale, also referred to as the Lydian Chromatic (or Western) Order of Tonal Gravity.

Scale (on the Highest Level)

A fundamental order of elements evidencing a tonical bias toward a single element as its center of gravity (sun), due to the tonical endowing property of a force existing on a level above the scale. In musical tonality, this force is tonal gravity—-the objective law of universal gravity manifested in the realm of sound by the interval of a fifth (the basic unit of tonal gravity), and by a ladder of fifths based on the Lydian tonic. The result of this self-organized arrangement of intervals of fifths (essentially) is the tonal gravity field of equal temperament manifesting unity, oneness, and scale on its highest level.

The monumental composer Karlheinz Stockhausen speaks of the importance of the interval of a fifth in the following:

> *Let me explain the Pythagorean comma. Let's say you have a frequency, and you build 2:3 frequential proportions on top of this frequency. Let's say Pythagoras has a string, and subdivides it in the proportion of two to three: then he gets a fifth, the interval of the fifth in relationship to the fundamental. If you subdivide the fifth, then you get the fifth of the fifth, etc. You can do this twelve times, and then you reach the original tone again. But there's a small*

difference, which is the 80:81 proportion. It's not exactly the same frequency. If you superimpose fifths, if you start making a scale of fifths going upward from the bottom to the top of the piano—let's say you'd start with the low C, then after twelve fifths you'd again reach a C: this C on the piano is supposed to be the same C, but in mathematical relationships it's not the same, there's a difference, and that difference is the Pythagorean comma.

The best scale for polyphonic and especially for homophonic—functional tonal—music is the chromatic scale, which is, in fact, made up of the superimposition of the twelve fifths I was talking about. This seems to be to be the optimum—if you make smaller intervals you get all mixed up."[1]

The second correlation between the overtone series and the LCCTO shows the Lydian flat seventh Scale being formed by partials eight through fourteen of the overtone series, based on C3 as the fundamental.[2]

	SIXTH OCTAVE OF EQUAL TEMPERAMENT						
PARTIALS 8-14 BASED ON (C3) FUNDAMENTAL	8	9	10	11	12	13	14
TONES CLOSEST TO THESE PARTIALS IN EQUAL TEMPERAMENT	C^6	D^6	E^6	$F^{\sharp 6}$	G^6	A^6	$B^{\flat 6}$
	LYDIAN FLAT SEVENTH SCALE						

As you know, the Lydian flat seventh Scale is one of the seven principal scales of the Lydian Chromatic Scale belonging to its ten tone order.

The third correlation between the overtone series and the LC order of tonal gravity shows how the overtone series, itself, can be used to construct the LC order. In this method, intervals smaller than the fifth occur as a direct result of the application of fifths.

1. *Stockhausen: Conversations with the Composer*, by Jonathan Cott, Simon and Schuster, New York, 1973.
2. C3 is the note one octave below middle C of the piano keyboard (equal temperament). It is the first note of the third octave of the piano and, consequently, of equal temperament. C6 is the first note of equal temperament's sixth octave. (See Overtone Chart).

The Overtone Series Construct of the Lydian Chromatic Order of Tonal Gravity

1. The first six partials based on the tone C as the fundamental are:

C c g c e g = C E G [C major Triad]

2. Moving up a fifth and using the tone G as a fundamental yields:

G g d g b d = G B D [G major Triad]

3. Moving up one more fifth and using the tone D as the fundamental yields:

D d a d f♯ a = D F♯ A [D major Triad]

When these three major triads are combined, they form the C Lydian Scale's tertian order:

THE TERTIAN ORDER OF THE C LYDIAN SCALE

C E G B D F♯ A

As previously stated, intervals smaller than the fifth occur in this construct, but the fundamentals that produce them are accessed by following the ladder of fifths as closely as the LC Order of Tonal Gravity permits.

For example, if the Pythagorean ladder of fifths were to serve as our model, following the D major triad we would logically move up a fifth and use the tone A as the next fundamental, thereby generating an A major triad with the new tone, (the eighth tone of the order being C♯). However, the introduction of the tone C♯ at this eight tone level of the LC Scale would mean a departure from Western harmony's intuitively (not formally) logical vertical development. It would mean that the I major, VI minor, II seventh, +IV minor seventh ♭5 and other chords produced intrinsically by the Lydian Scale would need to accommodate a tone contrary to their essential harmonic genre. Because of the Pythagorean ladder of fifths, the flat ninth C♯ sounding with a C major chord can sound like a natural extension of that chord's harmonic evolution. But other principal chords of the Lydian Scale (VI minor, II seventh, +IV minor seventh ♭5) have a more ingoing and functionally expansive relationship with tones other than the flat ninth C♯ of the Pythagorean scale of fifths.

For this reason, the movement a fifth up from D♮ (the most recent fundamental) to A natural must be omitted, due to its yielding an A major triad containing C♯ as the new tone. Instead, we'll move to E♮, the fundamental lying two-fifths (or an interval of a ninth) up from D. Don't worry, the chain

of fifths has not been broken; the fifth (A-E) is simply bypassed. Also, the tonic of an interval of a ninth (D-E) is still the lower tone, which means that the gravitational energy continues to be passed down the ladder to confer on the lowermost tone the tonical authority of a Lydian tonic (sun absolute) of a LC Scale.

Using E as a fundamental produces an E major triad (E G♯ B), with the new tone G♯ contributed as the eighth tone of the LC Scale. This is the definitive augmented tone that generates the Lydian Augmented Scale, as well as the chords formed by it. These chords are used to populate the eight PMG (chord mansions) of the LC Scale with augmented versions of their specific type. The raised fifth degree (G♯ within the C LC Scale) is also established as the PMT root of the seventh +5th PMG of the LC Scale.[1]

Again moving an interval of a fifth from the E major triad to the B major triad, (B b f♯ b d♯ f♯), a new tone, D♯, is introduced as the flat third degree of the C LC Scale's nine tone order.

C NINE-TONE ORDER
C E G B D F♯ A G♯ E♭

The vertical significance of the flat third degree lies in its seminal role in the creation of the Lydian Diminished Scale, and in the formation of the rich chordal colors contributed by that scale to the various PMG of the LC Scale. The movement up a fifth from B to F♯ is going too far away from the magnetism of C♮, the Lydian tonic. Also, using the tone F♯ as a fundamental would produce an F♯ major triad which contains two new tones A♯ and C♯ out of their LC order. So far, we have been using the fourth, fifth and sixth overtones of fundamentals provided by a ladder of fifths (essentially) based on the Lydian Tonic C♮. Now we will return to the Lydian Tonic (C), again using it as a fundamental, in order to use its seventh overtone, B♭, as the new tone.

OVERTONES: C c g c e g (B♭)
1 2 3 4 5 6 7

The tenth tone of the LC Order of Tonal Gravity has now been confirmed by the overtone series.

C TEN-TONE ORDER
C E G B D F♯ A G♯ E♭ B♭

1. See Chart A.

With the tenth tone of the LC Scale in place, two important chord producing scale colors are created:

LYDIAN FLAT SEVENTH
1 2 3 +4 5 6 ♭7

AUXILIARY AUGMENTED / WHOLE TONE
1 2 3 +4 +5 ♭7

As you are aware, the Lydian flat seventh Scale represents overtones 8 through 14 of the overtone series. Both scales populate the eight PMG of a LC Scale with their own chords of a comparable type.

Moving a fifth up from the Lydian Tonic (C) and using the tone G as a fundamental provides the tone F as the new tone.

OVERTONES: G g d g B d F♮
1 2 3 4 5 6 7

We now have eleven tones of the LC Scale confirmed by the overtone series:

C ELEVEN-TONE ORDER
C E G B D F♯ A G♯ E♭ B♭ F

The eleven tone order brings the fourth degree into the LC Scale. This is necessary in order to allow the four traditionally important horizontal scales to be formed on the Lydian Tonic, where they serve as member scales of the LC Scale. These are:

MAJOR	1 2 3 4 5 6 7
MAJOR +5	1 2 3 4 5 +5 6 7
MAJOR ♭7th	1 2 3 4 5 6 ♭7
AFRICAN-AMERICAN BLUES	1 (2) ♭3 3 4 +4 5 6 ♭7 (7)

The eleven tone order is also the repository of the auxiliary diminished scale, a very versatile scale applicable in both vertical and horizontal situations, and important as one of the seven principal scales of the LC Scale.

With F♮ (or E♯) in place as the definitive tone of the C eleven tone order, only the final tone of the LC Scale, B𝄪, needs to be accounted for. To do this, it is necessary to consider the favorable comparison between the LC Scale and its prototype, the Pythagorean spiral of (pure) fifths.

Basing this spiral on the lowest C of the piano keyboard's seven octave range[1] produces the following structure:

PYTHAGOREAN LADDER OF FIFTHS

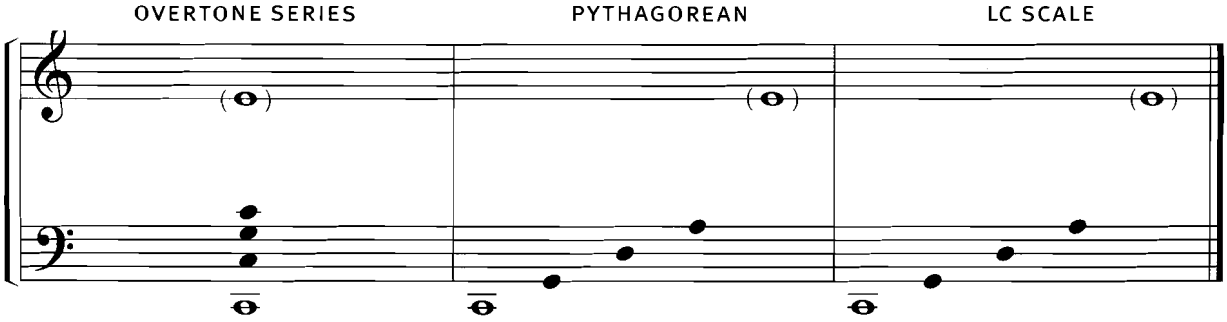
C G D A E B F♯ C♯ G♯ D♯ A♯ E♯ B♯♯

The Pythagorean spiral of fifths is not a closed circle. This is due to its last tone, B♯♯, sounding somewhat higher than its starting tone, C1 @ 33 cps. The difference between the first and twelfth tone is the Pythagorean comma (23 cents).[2]

The LC Scale's twelfth tone, C♯, is justified by the twelfth tone of the Pythagorean spiral, B♯♯.

Another correlation between the three systems—overtone series, Pythagorean spiral, and LC Scale—shows all three establishing the third degree of the Lydian Scale (E♮ in the C Lydian Scale) as the fifth tone of their order. All three orders introduce the interval of a fifth before manifesting the fifth overtone, the major third degree.

EXAMPLE VIII:4



All of these observations support the correlations existing between the LC Scale, the overtone series and the Pythagorean spiral of fifths. The overtone series is an established fundamental of acoustical physics.[3] The Pythagorean spiral of fifths was the basis for a tuning system which governed Western music from antiquity to the mid-15th century.

1. C1 @ 33 cps (cycles per second) is the tone C in the first octave of the piano vibrating at 33 cycles per second. (See *Sonic Design*, p. 452).
2. See *Harvard Dictionary of Music*.
3. See "Acoustics," *Harvard Dictionary of Music*.

Epilogue

Volume I of the Lydian Chromatic Concept focuses on the level of vertical tonal gravity as one of the three levels of tonal gravity presiding over and governing all of equal tempered music. The aim of Volume I is to create within the reader a sense of the rich vertical harmonic organization offered by the LC Scale, an organization which was either overlooked or discounted by Western music theory.[1] The ultimate fruit of this knowledge should be to imprint on the reader/musician a high degree of vertical consciousness—an awareness of each individual chord as an autonomous chord/parent scale unity.

It is for certain that efforts to use the major scale as the basis for an all encompassing, comprehensive music theory which includes the level of vertical tonal gravity are destined to hopeless confusion. Using a horizontal scale to justify the vertical phenomenon of chord/scale unity is like trying to insert "a camel through the eye of a needle."[2]

The major scale can be used to justify functional harmonic movement, but Western functional harmony[3] is a horizontal phenomenon involving the resolution of non-final chords to a final chord or cadence center. The result is a goal-oriented music whose fulfillment necessarily must be completed within a linear time frame; its non-finals need time to resolve to the approaching final goal. This non-final to final pattern of the major scale accounts for its true nature as a duality, necessarily dependent on a linear time frame to complete its resolving function. The major scale defines the true meaning of the term resolution in showing it to have dual aspects: the non-final in the process of resolving and the final to which it resolves. The major scale epitomizes duality—a "twoness" phenomenon.

Within the context of traditional music theory, the major scale is used to justify harmonic movement. But the Lydian Scale, the primary scale of vertical tonal gravity, can also justify functional harmonic movement in a way that is far more objective, expansive and logical, without subjecting a musician's essence to small laws of rights and wrongs.

The major scale and the Lydian Scale represent opposing forces in

1. Although certainly not overlooked in practice by Western composers.
2. The Bible (King James version), Mark 10:25.
3. The LC Concept's term for functional harmony is progressional harmony.

nature—the active (horizontal/resolving) force and the passive (vertical unity) force,[1] respectively. It's not a matter of which is best, for both forces are present and functioning in all of nature. They differ in that the Lydian Scale can accommodate the major scale and all its functions in a logical manner, but the major scale cannot do the same for the Lydian Scale. This indicates that a common prioritization of levels does exist between them.

A third force, the neutralizing (or reconciling) force, also exists concurrently with the active and passive forces. Knowledge of the interaction between these three forces as the causal and seminal forces involved in all manifestations on all levels of the cosmos has been passed down through the ages.[2] It becomes quite convincing when one looks at the composition of the atom. Its proton is the actively charged (active) particle; its electron is the negatively charged (passive) particle, and its neutron is the uncharged (neutralizing) particle.

From the perspective of the LC Scale, the Level of Vertical Tonal Gravity is its passive (vertical) state. The Level of Horizontal Tonal Gravity is its active (resolving) state, and the Level of Supra-Vertical Tonal Gravity is its neutralizing (reconciling) state.

When human consciousness allows itself to become blind to the second and third (passive and neutralizing) forces, the unrestrained active force alone rules life, and the Darwinian aspects of that condition become more and more apparent. It is not that the other two forces are not present, it is simply that humanity is unaware of them. Signaling this condition is Duality, a chief feature of the active force. Duality—or lack of unity stemming from placing the lower above the higher[3]—can produce unwanted results, such as . . . contradictions . . . omissions . . . constrictive and conflicting laws whose multiplicity chokes freedom . . . a worship of the lower over the higher, and the resulting erosion of quality in all walks of life . . . the denial of intuition and of the intuitive. All this, and much more, is driven by an unchecked active force running amok on the back of humanity's blindness to passive and neutralizing forces.

1. The passive force is sometimes referred to as the "negative" or "resisting" force.
2. See *In Search of the Miraculous* by P. D. Ouspensky and *Living Time and the Integration of the Life*, by Maurice Nicoll. Contact: By the Way Books, P.O. Box 255869, Sacramento, CA 95865-5869. Tel: (916) 482-2444. Fax: (916) 482-9898, or Samuel Weiser, Inc. 1-800-423-7087.
3. A provable fact lying within the structure of the major scale.

This book salutes, as a true Renaissance, the extraordinary era between the turn of the century through the mid 1980's. Amidst all of its violence (psychological, as well as physical), artistic innovation and recognition of levels of experience will continue to survive as the enabling factors in the evolution of all the arts. The Lydian Chromatic Concept is proud to be a creation of that fantastic era.

In closing, I must say that when I question the "Why?" of the more than fifty years spent in developing the Concept, the most gratifying and sustaining thought lies in knowing that the highest aim of the Concept is to shed light on the way in which cosmic gravity manifests in the realm of musical sound, to leave no doubt that gravity/magnetism is a conscious, living, objective force.

I hope this knowledge will light your way, inspiring and empowering your essence to express its truest, most unique self—not only musically, but also daring to venture into music's womb, that unseen philo-spiritual world which is music's seminal source and foundation connecting it—and you—to the stars.

—George Russell
Jamaica Plain, Massachusetts
June 6, 2000

From an unknown source: The cause of anything is everything, and the cause of everything is one thing. So the whole universe is involved in all and everything.

Note: As stated previously, Volume I is focused entirely on the Level of Vertical Tonal Gravity. Volume II (of two), underway as of the date of this printing, deals with the Levels of Horizontal Tonal Gravity and Supra-Vertical Tonal Gravity.

APPENDIX I

An Historical Perspective of the Lydian and Major Scales

by Reed Gratz

As stated in Robert Cogan and Pozzi Escot's enlightening book, *Sonic Design,*

> The European tonal system . . . has been regarded by its theorists, from Rameau to Hindemith, as a natural order. Certain of them proclaimed the 18th and 19th centuries as the "common-practice" period, an astonishing conception when one compares two centuries of common ideals with the preceding thousand years of the European modal system, not to mention the several millennia of the Indian raga systems. Since it ignored these, as well as the music of other cultures, and cannot apply to the 20th century music of the entire world, how common can it be? [1]

Constructing a seven-note scale by using a series of successive intervals of a fifth, is common in the history of music. It has been the basis for scalar structure from before Pythagorean times (c. 550 B.C.) to the present (The Lydian Chromatic Concept). Examples of this can be found in the music of Eastern civilizations. Slabs of stones, used as instruments tuned in sets, are still found in China, Korea and Samoa. The Chinese sets were originally tuned by a Pythagorean-like system several hundred years before the "Pythagorean School" developed in Greece.

Chinese musical treatises from the 11th through the 16th centuries were consistent in describing the use of a cycle of fifths for scale construction. The 11th-century Chinese (Sung Dynasty) treatise, *Twujih,* by Roan Yih and

1. Robert Cogan and Pozzi Escot. *Sonic Design: The Nature of Sound and Music* (Englewood Cliffs, N.J.: Prentice-Hall, 1976).

Hwa Yuan, explains in detailed terms the use of a fundamental tone, over which a scale of twelve semitones is produced by a cycle of fifths. It was this same process that was used by Prince Ju Tzay Yeh (1596) in an early form of the equal-tempered scale.

Two hundred years after *Twujih*, Chem Yuanjing included a circular diagram in his *Shyhlin Goangjih*, c. 1270, assembling the twelve semitones of a chromatic scale by means of a succession of fifths. He explained that by doing so, the basic scale, *gong-diaw* (C, D, E, F♯, G, A, B) was obtained. According to the *Shyhlin Goangjih*, any note of the scale could serve as the "tonic" of a melody, and a mode was defined by this tonic pitch on which the scale was constructed. Because there were twelve pitches in that chromatic scale and seven notes in each basic scale, eighty-four modes were theoretically possible.

Both the traditional music of Japan and Hindustani music are based on scales derived from a series of fifths. The two basic scales in Japanese music are the *ryo* (D, E, F♯, G♯, A, B, C♯) and the *ritsu* (D, E, F, G, A, B, C). They coincide with a D Lydian Scale and its parallel Lydian minor Scale (on the sixth degree of F). In the book *Hindustani Music: An outline of its Physics and Aesthetics*, author G. H. Ranade states that "ever since the days of the sage Bharata (prior to 300 B. C.) it was a well established practice to obtain the various notes of the scale by a chain of successive fifths."[2]

The question arises then: if these ancient and advanced cultures derived scales from successions of fifths to arrive at what we refer to as Lydian Scales, why did Western musicians move so predominantly toward the major/minor scale system? In his book, *Music, The Arts and Ideas*, Leonard Meyer discusses the idea of teleology in music.[3] Teleological music, in this sense, refers to "goal-oriented" music (comparable, in part, to Russell's idea of Horizontal Tonal Gravity) that represents the large majority of Western music (referring to European and European-influenced music). By reflecting the basic philosophy of goal-orientation, the major/minor scale system (a resolving or horizontal idea) is manifested. It seems logical, then, that Zen and other Eastern philosophies, that refer more often to a vertical, a blending, non-goal oriented—or at least, less goal-oriented—idea should

2. G. H. Ranade, *Hindustani Music: An Outline of Its Physics and Aesthetics*, 2nd ed. (Bombay: University of Bombay Press, 1951)
3. Leonard Meyer, *Music, the Arts and Ideas* (Chicago: University of Chicago Press, 1967).

originate in cultures reflecting this thought in musical scale choice.

The choice of the major/minor scale system is completely consistent with the teleology and technologically-oriented Western mind. It is a mind-set of the written tradition. The phenomenon of tension and release, goal-oriented, organized Western religion and philosophies, climbing the social ladder, getting ahead, planning for tomorrow—all fit easily within western European music, the music of the common practice era. Would music based upon the idea of modality structured in the scale derived from a series of successive perfect fifths, assuming the lowest of that series as tonal or modal center, the fundamental, have a different sound?

In his in-depth article, "Emergent 'Dissonance' and the Resolution of a Paradox,"[4] William Thomson discusses and questions numerous ideas regarding the perfect fourth as it has been perceived through music history, from consonance to dissonance.[5] He points to the *Grove's Dictionary* definition of dissonance: "A discord, or any sound which, in the context of the prevailing harmonic system, is unstable, and must therefore be resolved to a consonance." Perhaps those changes are in direct relationship to the contrast of fundamental approach to scalar construction; the use of the subdominant and the continuing perfect fifths above a fundamental.

Examples of Western musical thought regarding the construction of the Pythagorean scale, resulting in the major scale, are discussed below. In both instances, the resultant (major scale) appears to have been reached by manipulated means. The methods used in each examples (varied from those used in previous examples) seem to have been guided toward the desired end: the major scale.

John Backus explains the construction of the Pythagorean scale in his widely used book, *The Acoustical Foundation of Music*. Beginning on the pitch C, Mr. Backus progresses to a perfect fourth above (to F), moves back to C, then proceeds by fifths, G, D, A, E, and B to "avoid black notes." Black notes only come into play, of course, with keyboards. The idea of subdominant is acceptable and of great purpose in Western music; it certainly precedes the use of black and white notes on a keyboard.

4. William Thomson, "Emergent Dissonance and the Resolution of a Paradox," *The College Music Society Symposium* 36 (1996), pp. 115–137.

3. John Backus, *The Acoustical Foundations of Music* (New York: W.W. Norton and Co., 1969).

A second example is from *The Harvard Dictionary of Music*, in which the Pythagorean scale is described as a "diatonic" scale, with one fifth below the fundamental (C to F), followed by five fifths above (C down to F, then C, G, D, A, E, B). This group of pitches is combined to form a scale within one octave, the resultant scale being a major scale on C (C, D, E, F, G, A, B).

By examining these two examples, one might ask the question: if a real construction of a series of successive fifths has occurred, is the pitch F not the true fundamental and the F Lydian Scale (F, G, A, B, C, D, E) the resultant as supported by the Eastern treatises? The two differing interpretations offer the possibilities of horizontal (major and minor tonal system) and vertical (Lydian and modal system).

Historically, there is evidence describing sources of influence which led Western musicians in the direction of the resolving major scale. Along with the idea of teleology, was the powerful influence of the Christian church. The Church influenced much of the music from well before the 11th century to the 18th, when that influence began to diminish. By the 10th century, after many centuries of development, the Church recognized eight modes.

AUTHENTIC MODES	PLAGAL MODES
and relative pitches	
Dorian	Hypodorian
D, E, F, G, A, B, C	A, B, C, D, E, F, G
Phrygian	Hypophrygian
E, F, G, A, B, C, D	B, C, D, E, F, G, A
Lydian	Hypolydian
F, G, A , B, C, D, E	C, D, E, F, G, A, B
Mixolydian	Hypomixolydian
G, A, B, C, D, E, F	D, E, F, G, A, B, C

The *final* (similar to tonic) note for each of the plagal modes was that of the corresponding authentic mode; for example, both the Phrygian and Hypophrygian had finals of E. The plagal mode was constructed on the pitch a perfect fourth below the final note of the authentic mode, and considered to be grouped in a pair with the corresponding authentic mode. Modes built upon notes equivalent to A, B, and C, while appearing in practice for centuries, were not recognized by theoretical treatise until the middle of the

16th century (1547) when systems of twelve modes containing the Ionian, Hypoionian, Aeolian, (later the natural minor scale), and Hypoaeolian were described by Glareanus. Previously, modes of this nature were most often used and constructed when notes were altered at cadences and to avoid the tritone by means of "musical ficta" (accidentals added by performers). As the practice of avoiding the tritone (occasionally referred to as the "Devil's interval)," particularly in choral music was common and offered association with the declaration of "impurity," the use of modes containing the perfect fourth was given an added emphasis. Of course, this was also connected to the growing popularity of using the perfect fourth above the final/tonic in a decorative, passing way with the perfect fifth above, and later, to the dominant 7th chord.

This time period (1547) coincided with the formation of the Council of Trent. This body of high-ranking clergy within the Roman Catholic church met on a regular basis between 1545 and 1563, and was responsible for the establishment of a reformed Mass. The Council was formed out of the need for "purifying" and desecularizing the sacred service, as dissension was rising from England, Germany, the Netherlands and other European areas within the realm of the Roman Catholic Church.

In exploring the foundation upon which certain scales are founded, we discover, as Mr. Russell points out, that the Lydian Scale is based on a series of successive fifths, and, to a degree, on the overtone series. It is the product of a physically natural acoustical phenomenon. The naturalness of the Lydian Scale is confirmed, also, by the symmetry of its construction. By including the sharp fourth, the exact center point of the octave interval is present: C to F♯ is an interval of three whole steps; from F♯ to C is also three whole steps.

This may be seen more vividly by examining the frequency ratios (the number of cycles completed by a sound wave in one second) and interval ratios for each of the twelve intervals of the chromatic scale. *The Harvard Dictionary of Music* defines equal temperament as "dividing the octave into twelve equal parts (semitones). The frequency ratio of the octave is 2.0 (C1=2 and C, one octave below, = 1), the frequency ratio, S, of this semitone is given by the equation S to the 12th power = 2; S = $12\sqrt{2}$, S = 1.05946. The successive powers of this figure (between C and the other chromatic scale tones) give the frequency ratio for the tones of the chromatic scale."

CHROMATIC SCALE TONES	FREQUENCY RATIO	PYTHAGOREAN INTERVAL RATIO		
C	1.0000	1/1	=	1.0000
C♯	1.0595	256/243	=	1.0535
D	1.1250	512/243	=	2.1070
D♯	1.1892	768/243	=	3.1605
E	1.2600	1024/243	=	4.2140
F	1.3370	1280/243	=	5.2675
F♯	1.4162	1536/243	=	6.3210
G	1.5004	1792/243	=	7.3745
G♯	1.5876	2048/243	=	8.4280
A	1.6829	2304/243	=	9.4815
B♭	1.7820	2560/243	=	10.5350
B	1.8980	2816/243	=	11.5885
C1	2.0108	3072/243	=	12.6420

By examining the above table, one sees that the Pythagorean interval ratio of F♯ (the raised fourth in this example) is equal to exactly one half that of the ratio for C1: 6.3210 and 12.6420. This shows even more clearly the strong relationship between the tonic note and the raised fourth: the symmetrical state, or the state of blending with the sound of the tonic note.

Perhaps the logic of using the major and minor tonal system as so exclusive a foundation for our theoretical and compositional approach to music is questionable. Evidence of the fact that advanced cultures took the circle of fifths as the basis for scalar structure, deriving differing and beautifully valid scale results, is numerous and strong. By inclusively attuning ourselves to other cultures and musics, their origins and philosophies, we become aware of some of the associations between the Lydian Scale and natural symmetry and order.

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APPENDIX II

Test Answers

Test A—Chapter 4, pages 64–65

D7 — Parent Lydian Tonic is C

C D E F♯ G A B	C D E♭ F G♭ A♭ A♮ B	C D E F♯ G♯ A♯
C Lydian	C Aux Dim	C Aux Aug

D min7 — Parent Lydian Tonic is F

F G A B C D E	F G A B C♯ D E	F G A♭ B♭ B♮ C♯ D E
F Lydian	F Lyd Aug	F Aux Dim

A maj7 — Parent Lydian Tonic is A

A B C♯ D♯ E F♯ G♯	A B C♯ D♯ E♯ F♯ G♯	A B C D♯ E F♯ G♯
A Lydian	A Lyd Aug	A Lyd Dim

B♭6 — Parent Lydian Tonic is B♭

B♭ C D E F G A	B♭ C D E F G A♭	B♭ B♮ C♯ D E F G A♭
B♭ Lydian	B♭ Lyd ♭7	B♭ Aux Dim Blues

A13 — Parent Lydian Tonic is G

G A B C♯ D E F♯	G A B C♯ D♯ E F♯	G A B♭ C D♭ E♭ E♮ F♯
G Lydian	G Lyd Aug	G Aux Dim

G min6 — Parent Lydian Tonic is B♭

B♭ C D E F G A	B♭ C D E F G A♭	B♭ C D E F♯ G♯
B♭ Lydian	B♭ Lyd ♭7	B♭ Aux Aug

Test A—Chapter 4, pages 64–65, continued

C min$^{7\,\flat5}$ — Parent Lydian Tonic is G♭

G♭ A♭ B♭ C D♭ E♭ F	G♭ A♭ B♭ C D♮ E♭ F	G♭ A♭ B♭ C D♭ E♭ E♮
G♭ Lydian	G♭ Lyd Aug	G♭ Lyd $^{\flat7}$

B$^{7\,\flat9}$ — Parent Lydian Tonic is A

A B C D♯ E F♯ G♯	A B C♯ D♯ E♯ G	A B C D D♯ E♯ F♯ G♯
A Lyd Dim	A Aux Aug	A Aux Dim

E♭min$^{7\,\flat5}$ — Parent Lydian Tonic is A

A B C♯ D♯ E F♯ G♯	A B C♯ D♯ E F♯ G♮	A B♭ C D♭ E♭ E♮ F♯ G♮
A Lydian	A Lyd $^{\flat7}$	A Aux Dim Blues

E$^{7\,+5}$ — Parent Lydian Tonic is A♭

A♭ B♭ C D E F G	A♭ B♭ C D E F♯	A♭ A♮ B♮ C D E♭ F G♭
A♭ Lyd Aug	A♭ Aux Aug	A♭ Aux Dim Blues

Test D—Chapter 4, pages 76–77

1. A♭ Lyd
2. D♭ Lyd
3. D♭ Lyd Dim
4. A♭ Lyd
5. D♭ Lyd
6. F Lyd
7. C Lyd C.E.
8. E♭ Lyd
9. A♭ Lyd
10. A♭ Lyd Dim
11. E♭ Lyd
12. A♭ Lyd
13. C Lyd
14. G Lyd
15. C Lyd
16. G Lyd C.E.
17. A Lyd
18. E Lyd C.E.
19. E Lyd Aug
20. A♭ Lyd
21. D♭ Lyd
22. D♭ Lyd Dim
23. A♭ Lyd
24. D♭ Lyd
25. D♭ Lyd Dim
26. E♭ Lyd C.E.
27. E♭ Aux Dim
28. D♭ Lyd
29. A♭ Lyd

Test A—Chapter 5, page 86

CHORD	PARENT SCALE	CHORD	PARENT SCALE
1. $B^{\flat 7\,\flat 9}$	= $A^{\flat}$ LD II	8. $E^{\flat 7\,\flat 9}$	= $D^{\flat}$ LD II
2. $A^{\flat 13}$	= $G^{\flat}$ Lyd II	9. F^{7+5}	= A LA +V
3. $D^{7\,\flat 5}$	= C LA II	10. $G^{\flat 7\,\flat 5}$	= E LA II
4. $G^{7\,\flat 5}$	= F LA II	11. $E^{7\,\flat 5\,\flat 9}$	= D AD II
5. C^{11}	= $B^{\flat}$ Lyd II	12. $B^{7+5\left(\flat 5\,\flat 9 \atop +9\right)}$	= $E^{\flat}$ LA +V
6. $D^{\flat 7\,\flat 5}$	= B LA II	13. $A^{7+5\left(\flat 5\,\flat 9 \atop +9\right)}$	= $D^{\flat}$ LA +V
7. $B^{7+5\left(\flat 9 \atop +9\right)}$	= $E^{\flat}$ LA +V	14. C^{13+11}	= $B^{\flat}$ LA II

Test B—Chapter 5, pages 93–94 ("Not Me"— 2nd chorus)

1. $E^{\flat}$ Lyd
2. D Lyd
3. $E^{\flat}$ Lyd
4. $E^{\flat}$ Lyd Aug
5. $A^{\flat}$ Lyd Aug
6. $D^{\flat}$ Lyd
7. G Lyd
8. $A^{\flat}$ Lyd
9. B Lyd
10. $E^{\flat}$ Lyd
11. $E^{\flat}$ Lyd
12. $G^{\flat}$ Lyd Dim
13. $A^{\flat}$ Lyd Aug
14. $A^{\flat}$ Lyd Dim
15. $E^{\flat}$ Lyd Aug
16. D Lyd Aug
17. $E^{\flat}$ Lyd
18. $E^{\flat}$ Lyd Aug
19. D Lyd Aug
20. $D^{\flat}$ Lyd
21. $A^{\flat}$ Lyd
22. B Lyd
23. $E^{\flat}$ Maj
24. $B^{\flat}$ Lyd Dim
25. $A^{\flat}$ Lyd
26. $A^{\flat}$ Lyd$^{\flat 7}$
27. $E^{\flat}$ Lyd
28. $B^{\flat}$ Maj / Aux Dim Blues

Test C—Chapter 5, pages 100–101 ("Autumn Leaves")

1. $E^{\flat}$ Lyd
2. $B^{\flat}$ Lyd
3. $E^{\flat}$ Lyd
4. C Lyd Dim
5. $B^{\flat}$ Lyd
6. $E^{\flat}$ Lyd
7. D Lyd
8. $D^{\flat}$ Lyd
9. $E^{\flat}$ Lyd
10. C Lyd
11. $B^{\flat}$ Lyd
12. $E^{\flat}$ Lyd
13. C Lyd
14. $B^{\flat}$ Lyd
15. $E^{\flat}$ Lyd
16. D Lyd
17. $A^{\flat}$ Lyd
18. $E^{\flat}$ Lyd
19. C Lyd
20. $D^{\flat}$ Lyd
21. C Lyd
22. $B^{\flat}$ Lyd
23. C Lyd
24. $A^{\flat}$ Lyd
25. $E^{\flat}$ Lyd
26. C Lyd
27. $B^{\flat}$ Lyd

APPENDIX III

George Russell Discography

(AS LEADER)

It's About Time: The George Russell Living Time Orchestra. Label Bleu 6587. Distributed by Allegro Corp, USA.

The London Concert, Vol. I and II: The George Russell Living Time Orchestra. Label Bleu, LBLC 65278

Live in Tokyo. Electric Bird K32Y 6249

So What. Blue Note BT 8513

The African Game. Blue Note BT 83193

Live in an American Time Spiral. Soul Note 1049

Vertical Form VI. Soul Note 1019

George Russell's New York Band at the Village Vanguard. Soul Note 1039

The Essence of George Russell. Soul Note 121044-2

Listen to the Silence. Soul Note 1024

Electronic Sonata for Souls Loved by Nature, 1980. Soul Note 1009-2

Trip to Prillarguri. Soul Note 1029-2

New York, New York. GRP/Impulse IMPD-278

Othello Ballet Suite. Soul Note 1014

Outer Thoughts. Milestone M-47027

Living Time. Columbia KC 31490

The George Russell Smalltet—The Jazz Workshop. Bluebird/ BMG 6467-2-RB

The Outer View. Original Jazz Classics 616

The George Russell Septet. RLP(S9) 412

The George Russell Sextet at the Five Spot. GRP/Impulse

Stratusphunk. Original Jazz Classics OJC 232

Ezz-thetics. Original Jazz Classics 070

The Stratuseekers. Original Jazz Classics OJC 365

The George Russell Sextet in Kansas City. GRP/Impulse

The George Russell Sextet at Beethoven Hall. MPS MC25125

Jazz in the Space Age. Chessmates GRD-826

COMPILATIONS:

The Riverside Records Story. Riverside 4RCD-4422-2

The Birth of the Third Stream. Columbia CK 64929

Outstanding Jazz Compositions of the 20th Century. Columbia C2S-831

RCA Victor Jazz: The First Half Century. MBG/RCA 7863

Big Band Renaissance/The Evolution of the Jazz Orchestra. The Smithsonian Collection of Recordings RC/RD 108 S45/S25-17618

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Gravity Centering Element (GCE): *The gravity centering element represents one of three musical elements singularly and permanently related to a specific one of the three Levels of Tonal Gravity provided by the LC Scale. Accordingly, each GCE is given the authority to designate its associate level as the Prevailing Level of Tonal Gravity when activated by the focus of the musician. The musician is always aware of the prevailing level of Tonal Gravity and the melodic behavior (one of three types) designated by its GCE.*

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GEORGE RUSSELL'S

Lydian Chromatic Concept of Tonal Organization

Musicians speak on George Russell and his work:

"*The Lydian Chromatic Concept* is one of the two most splendid books about music; the other is *My Musical Language* by Olivier Messiaen. Though I'm considered a contemporary music composer, if I dare categorize myself as an artist, I've been strongly influenced by the Lydian Concept, which is not simply a musical method—we might call it a philosophy of music, or we might call it poetry." —TORU TAKEMITSU

"Surpasses any musical knowledge I've been exposed to." —ORNETTE COLEMAN

"Gives you so much more to work with." —ERIC DOLPHY

"The foremost theoretical contribution of our time—destined to become the most influential philosophy of the future." —DAVID BAKER

"Far ahead of any book in the field." —GIL EVANS

"The past, the present, the future, all in one. A must for the serious musician." —ART FARMER

"George enlightened me about a different way of playing music, an analytical way which enabled me to go on learning about music on my own." —JAN GARBAREK

Writers and scholars on George Russell and the Lydian Chromatic Concept:

"The first work deriving a theory of jazz from the immanent laws of jazz, not from the laws of European music. The *Concept* was the great path-breaker for Miles Davis' and John Coltrane's modality."—JOACHIM BERENDT, *The Jazz Book*

"The simple melody was an experiment inspired by an evening Miles had spent with . . . George Russell who at the time was working on his . . . *Lydian Chromatic Concept* . . . Miles was fascinated by Russell's approach. Here was a means for breaking free from tonal clichés while maintaining some amount of restraint. Shortly after his evening with Russell, Miles recorded his new composition demonstrating Russell's basic principles."—ERIC NISENSON, *Round About Midnight: A Portrait of Miles Davis*

"Consider the circumstances. Miles took his musicians into the studio for the first of two sessions for *Kind of Blue* in March, 1959. At the time modal jazz . . . was not an entirely new idea. . . . Originally, the idea for this kind of playing was the concept of composer George Russell." —ROBERT PALMER, liner notes for *Kind of Blue*

"Russell is responsible for what remains the most significant single theoretical treatise written about the music." —MORTON AND COOK, *The Penguin Guide to Jazz*

"Miles Davis became the first major jazz musician to be influenced by Russell's ideas, and in 1958 he composed . . . *Milestones*, which was based on two modes. . . . He recorded *Milestones* with Coltrane on April 3, 1958, and both men felt liberated by the new harmonic philosophy. Davis continued to work on Russell's concepts, and . . . he created five selections for the first all-modal album, *Kind of Blue*." —DONALD MAGGIN, *Stan Getz: A Life in Jazz*

"It is indeed quite possible that much of the jazz rock of the seventies would not have existed if it weren't for Russell's pioneering work." —ERIC NISENSON, *Music and Sound Output*

"Nobody in jazz today writes with Russell's scope, feel for ensemble structure, or intellectual reach. Nobody in jazz writes like this, period." —J. D. CONSIDINE, *Musician Magazine*

"One of the decisive forces in the development of modern jazz."—FRANCIS DAVIS, *Philadelphia Inquirer*

"George Russell is the Duke Ellington of our generation." —GILLES ANQUETIL, *Le Nouvel Observateur*

"All of [jazz's] most important developments from modal improvisation to electronics, African polyrhythms to free form atonality to jazz-rock have taken cues from Mr. Russell's pioneering work." —ROBERT PALMER, *The New York Times*

"One of the greatest composer/bandleaders in jazz, not presently, but in an all-time sense." —JACK COOKE, *Wired*

"the living embodiment of vibrancy, unrivaled in its ability to thrill mind and body alike. No jazz composer so effortlessly weaves so much jazz history . . . into so rich and satisfying a tapestry of sound." —CHRIS PARKER, *The Times* (London)

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